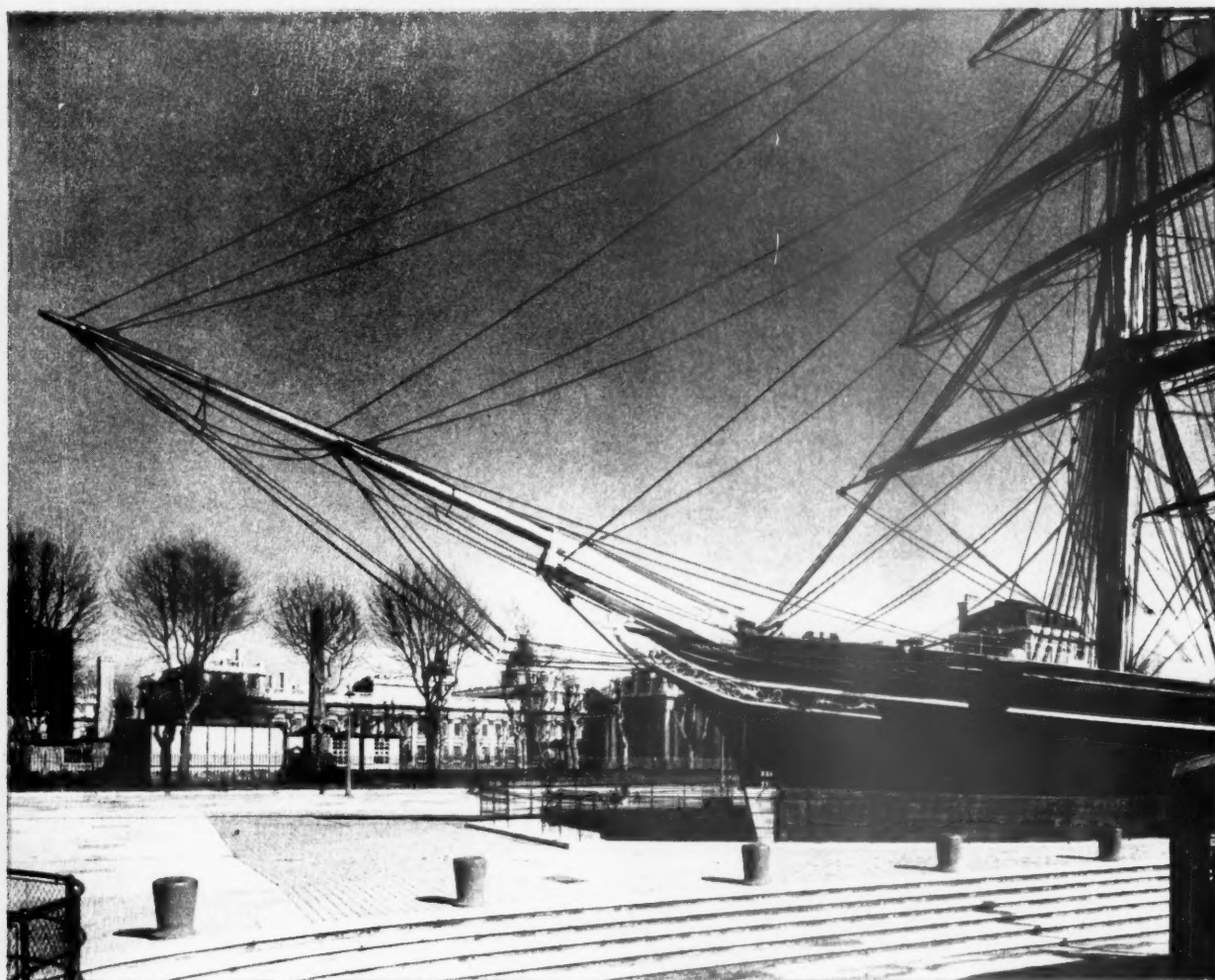


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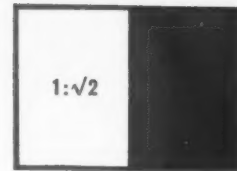
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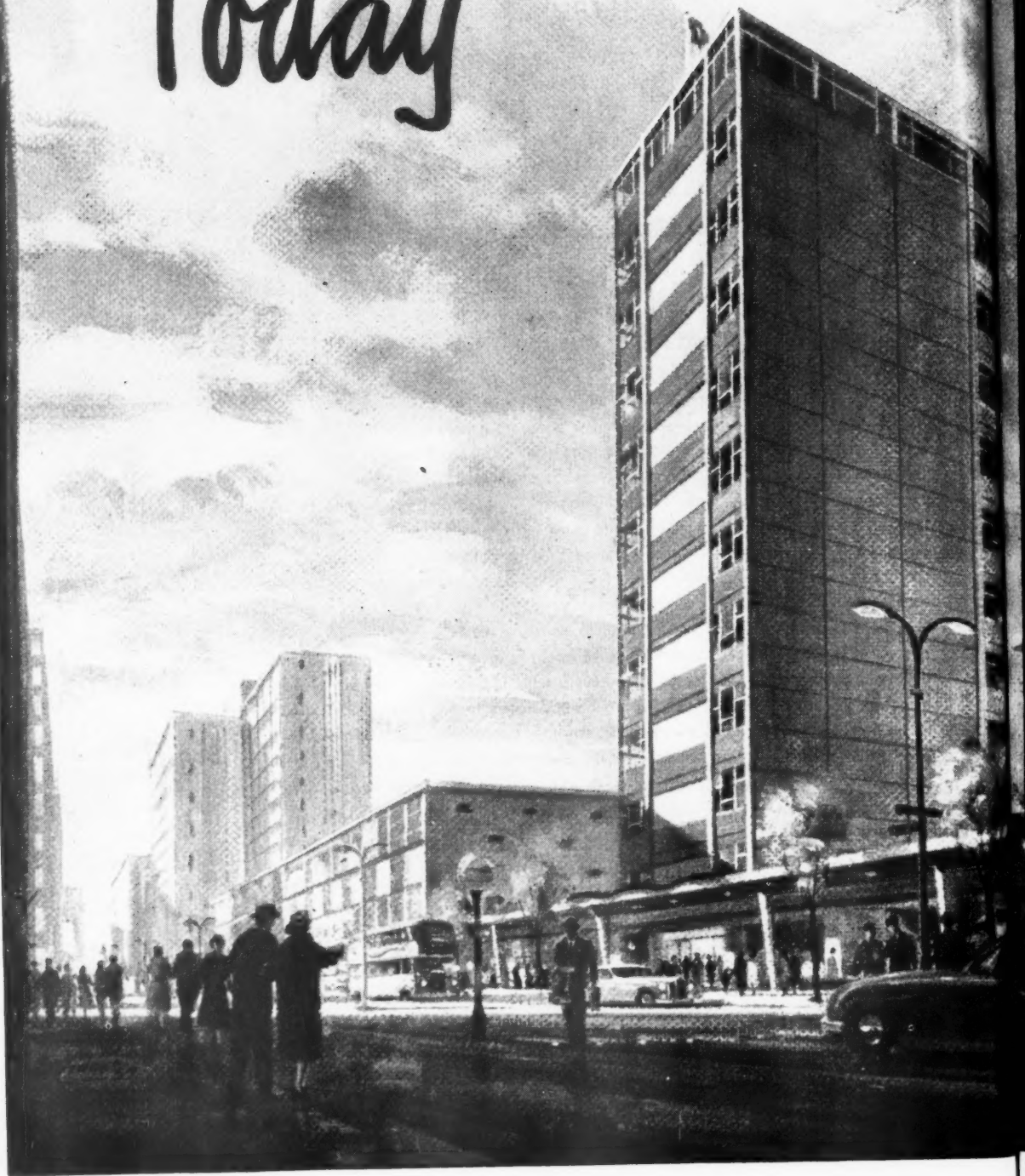
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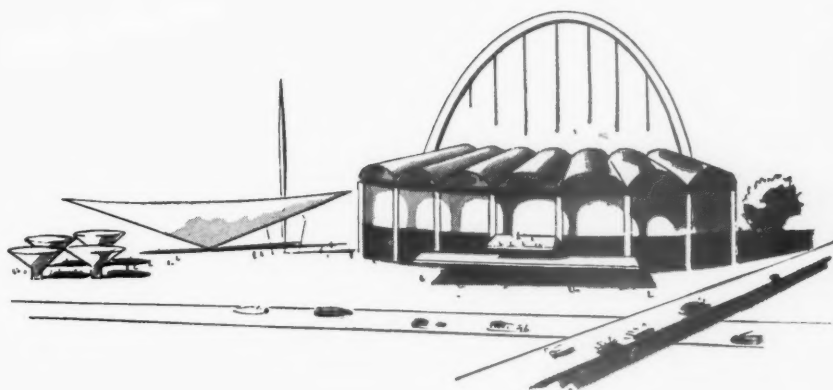
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publications: List of Approved Domestic Solid Fuel Appliances, Warmer Homes with Solid Fuel, Fuel Stores for Houses and Flats, Building for Warmth—all free; and for 1/6—Correct Fixing of Domestic Solid Fuel Appliances.



Compare the Running Costs! This table shows typical comparative costs for different fuels. These have been calculated for a 3 bedroom house of some 1000—1,200 square feet and are those of an *average* week's heating and hot water supply during the 30-week heating season. Fuel prices vary, of course, and local costs can easily be calculated from those given. If you would like the data on which these figures are based, write to the Coal Utilisation Council, 3 Upper Belgrave Street, London, S.W.1.

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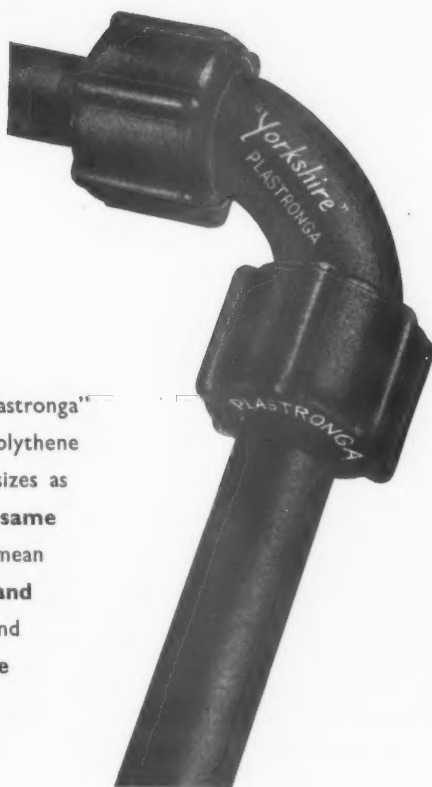
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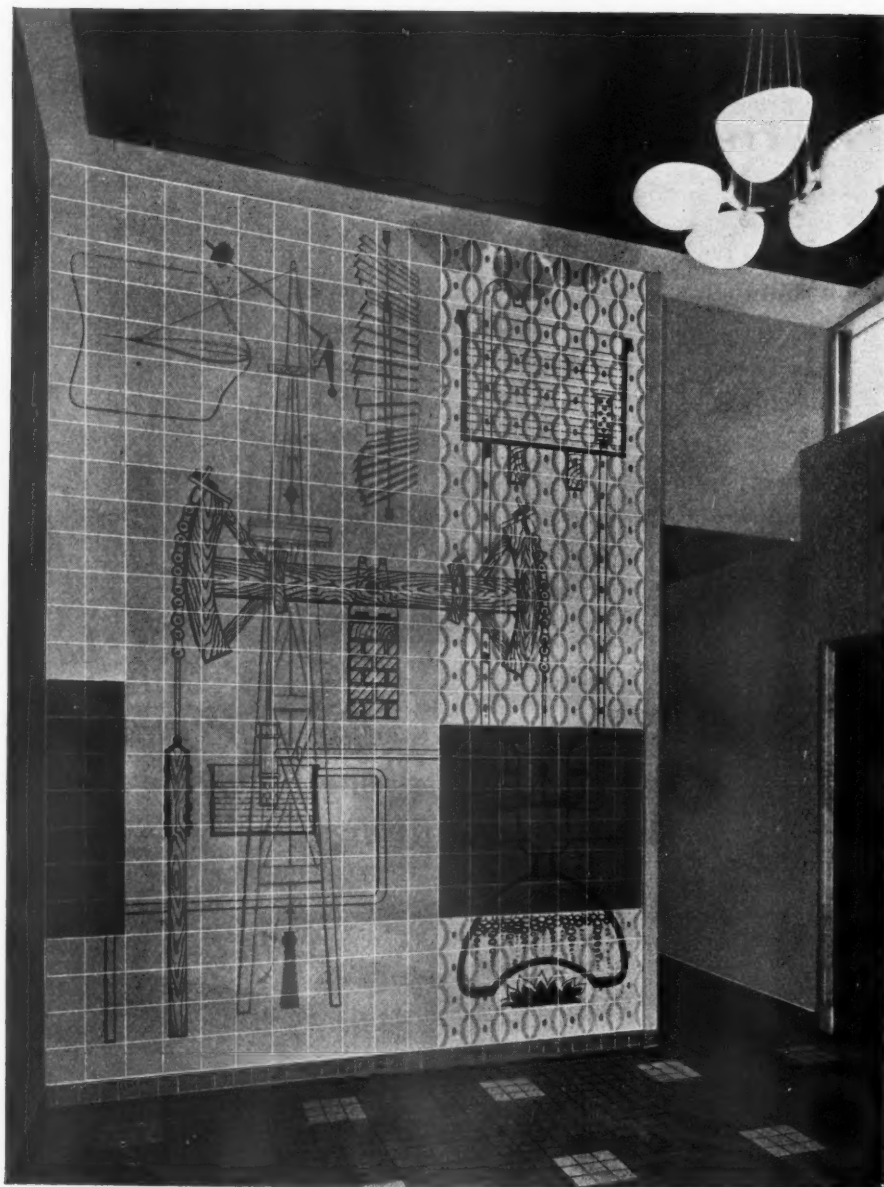
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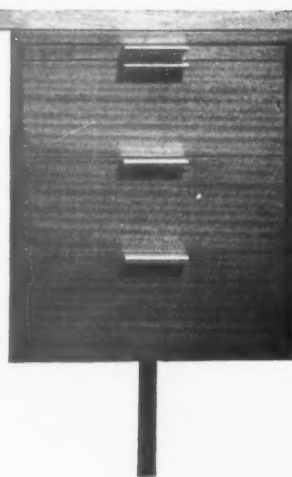


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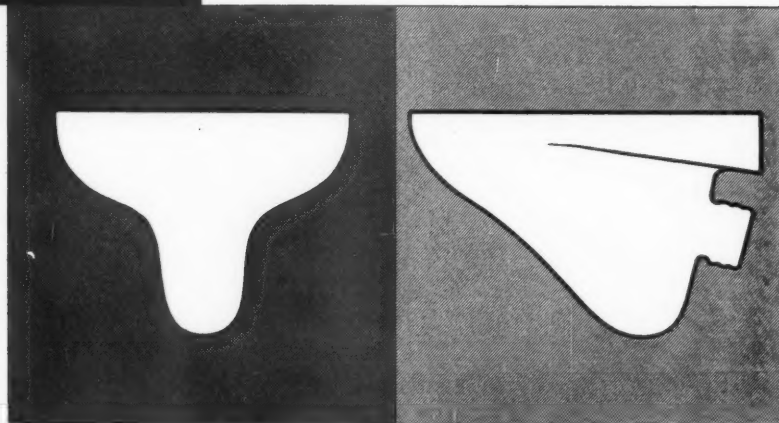
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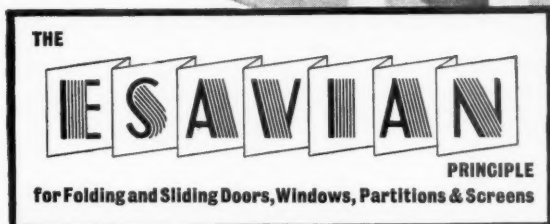
EXTRA COVER

season in,
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This handsome new stand on the Northampton Cricket Club's ground serves its purpose well. During the season it's a pleasant restaurant and bar, with glazed folding doors opening onto the terrace. In winter it becomes an indoor cricket school, the doors firmly closed against wind and weather. Esavian dual-purpose screens enclose the restaurant, can be pushed back to make room for nets.

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*Architects: Sir John Brown
A. E. Henson & Partners*



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DRI-SIL

silicone masonry treatments

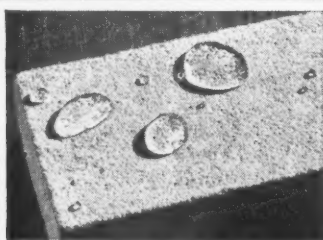
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- ★ Improve the thermal insulation of buildings by preventing the absorption of moisture by the walls.
- ★ Prevent spalling or scaling due to frost action on concrete road surfaces and bridges.

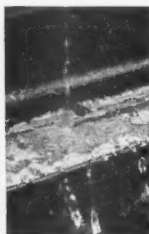
The concrete facings of the Royal London House, Bournemouth, are treated with "P.W.A. Solution" based on DRI-SIL 29, supplied by Farrow & Ball Ltd., Verwood, Dorset.



Water will not penetrate silicone treated masonry but moisture from the inside, in the form of water vapour, can still pass through the pores.



Water bounces right off the silicone treated window sill on the right. The untreated sill on the left is thoroughly soaked as soon as water hits the masonry surface.



PROOF OF THE EFFECTIVENESS OF THESE TREATMENTS IS SHOWN IN THIS TABLE		% Water absorption after 24 hours' immersion	
		Initial Test	Re-tested after 3 years' natural weathering
Sandstone	untreated	7.0	6.2
	DRI-SIL treated	0.1	0.2
Cement Block	untreated	6.0	5.9
	DRI-SIL treated	0.4	0.7
Common Brick	untreated	20.0	20.1
	DRI-SIL treated	0.1	0.3

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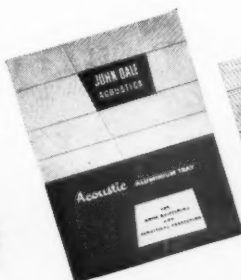
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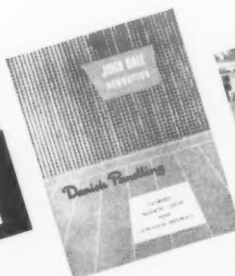
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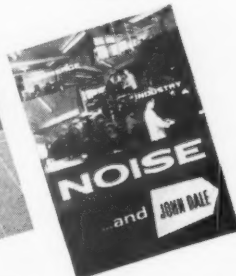
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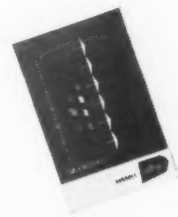
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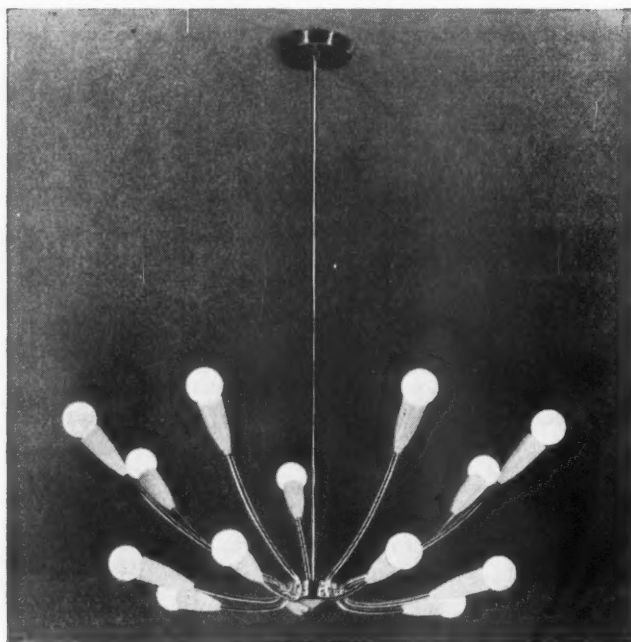


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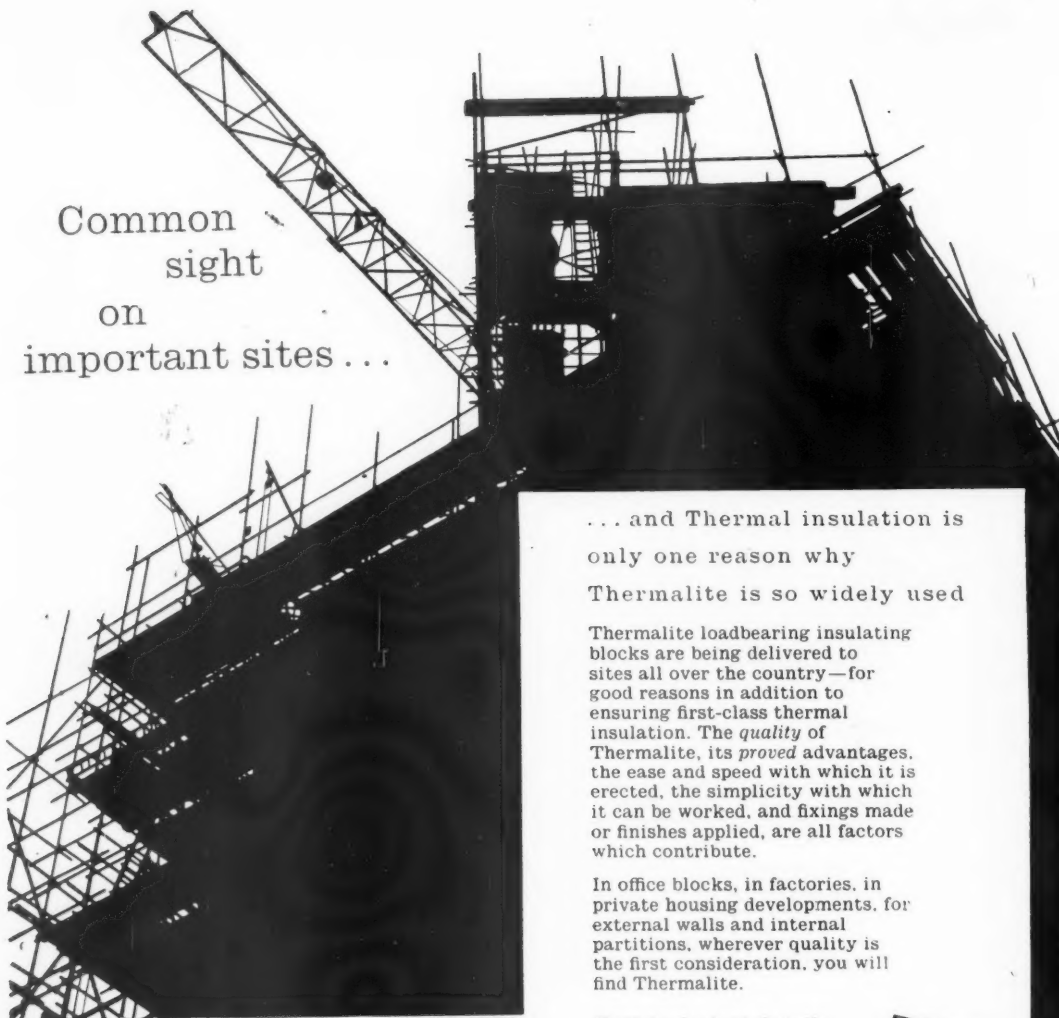
* This suspended ceiling combines radiant heat with noise reduction by means of hot water heating pipe coils hidden behind acoustic panels. Both are suspended independently of each other from the existing ceiling. Heat radiating through the perforated acoustic panels provides radiant warmth without stuffiness, while excessive noise is absorbed by both the acoustic panels and the thermal acoustic pad: the latter may also economize in fuel by reducing heat loss.

* Extract from Publication No. 348, copies of which will gladly be sent gratis, on application to

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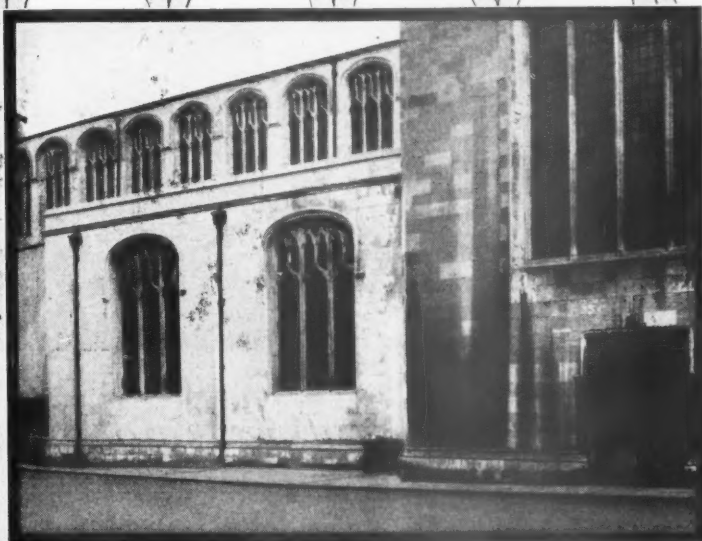
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THIS STARTLING CONTRAST was achieved by the use of two 'PUDLO' products: 'External Water Repellent' 'Fungicide'

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Contractors: R. W. Dye & Sons, King's Lynn.*

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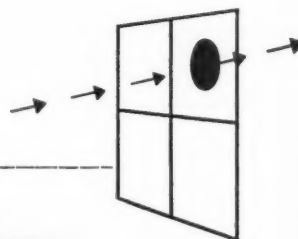
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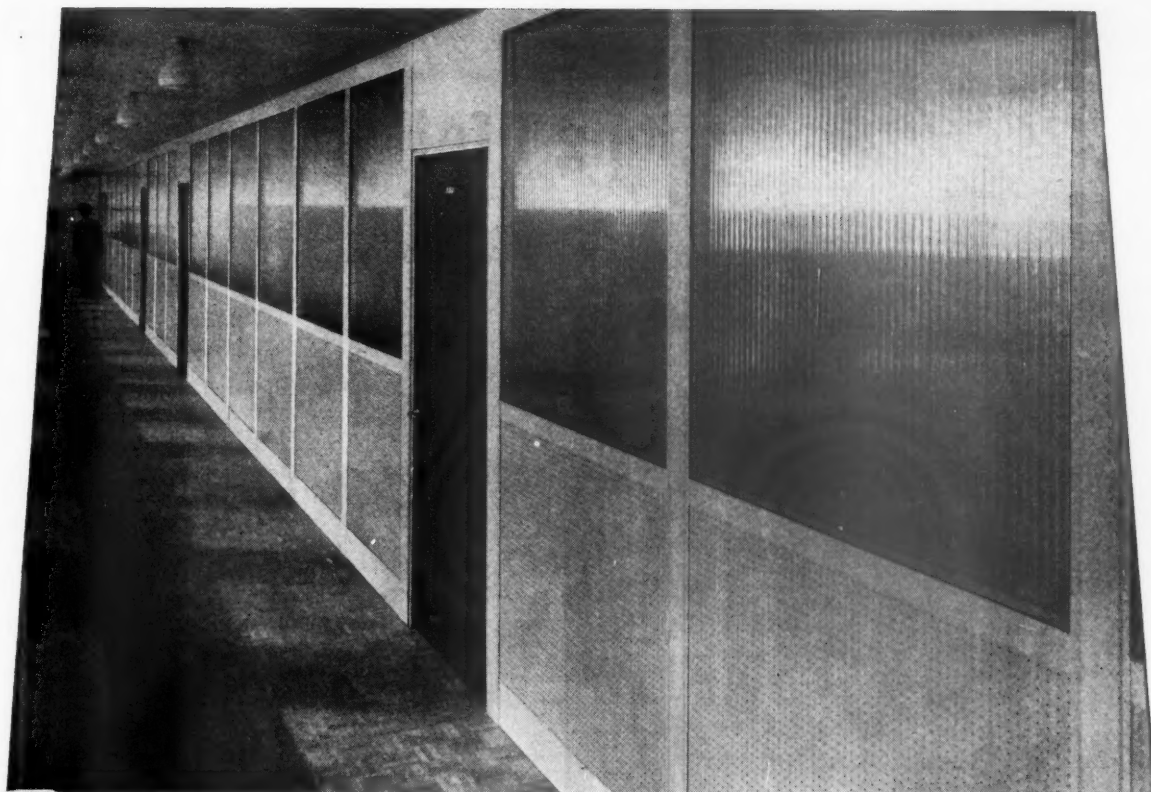
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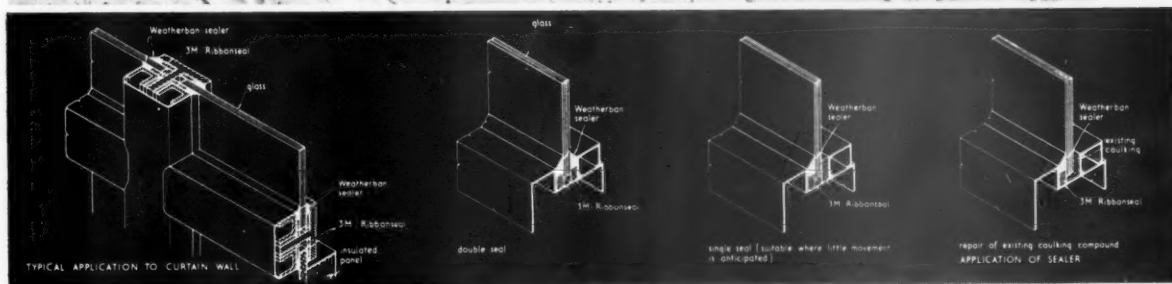
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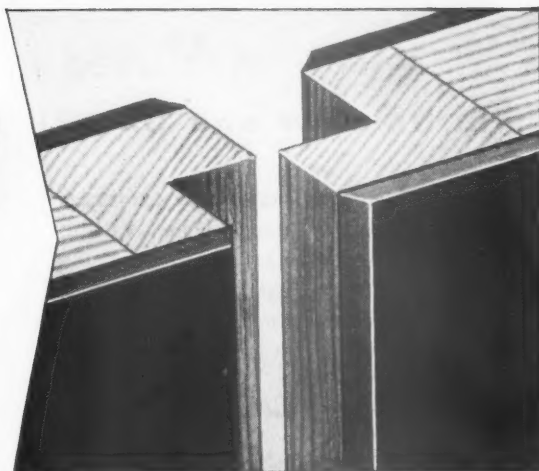
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14

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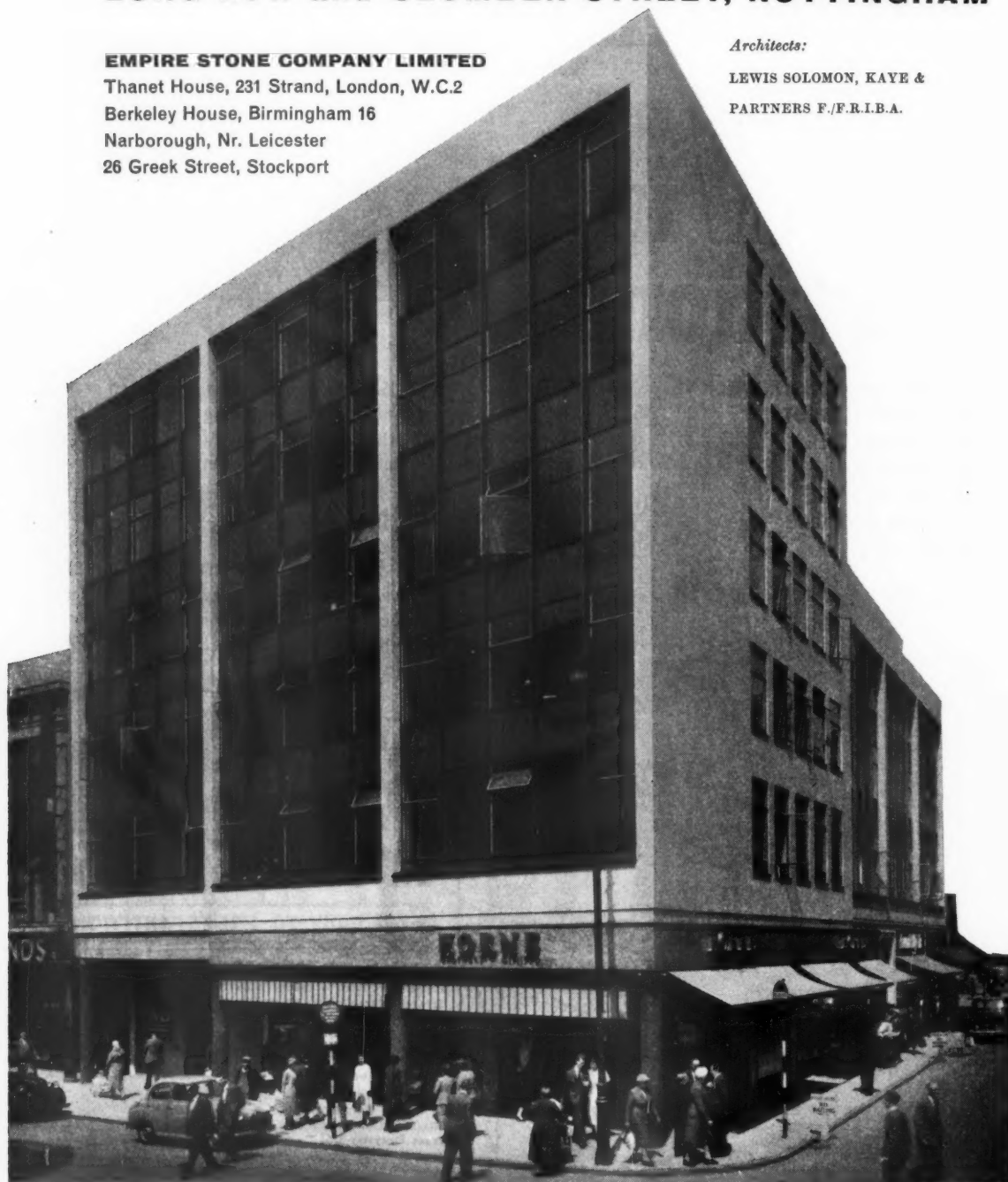
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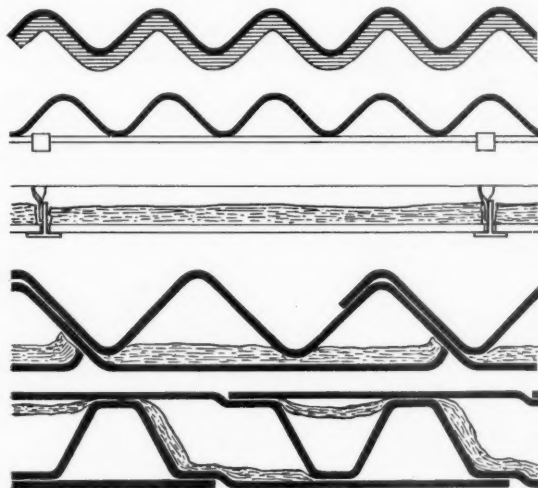
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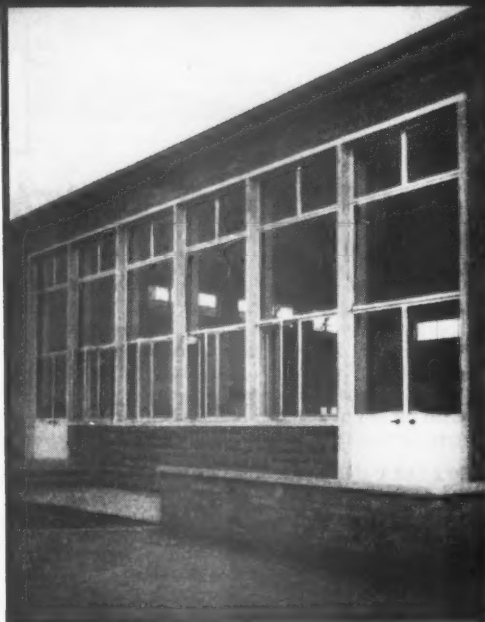


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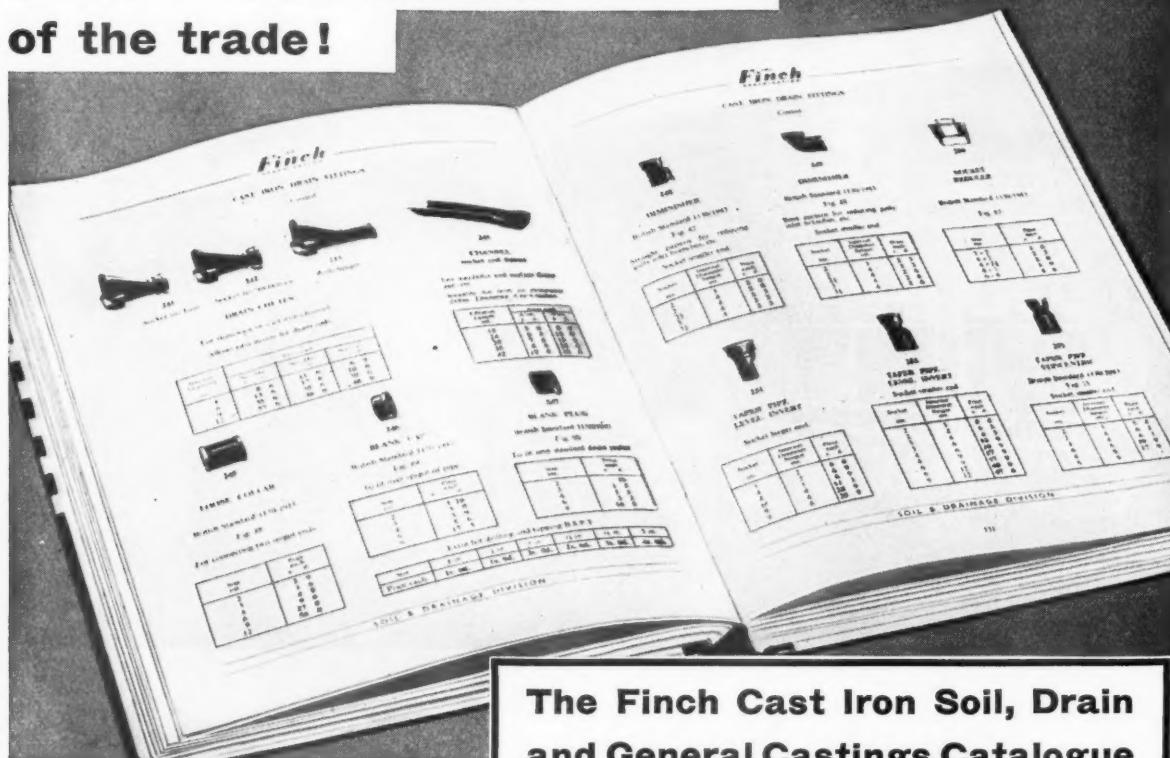
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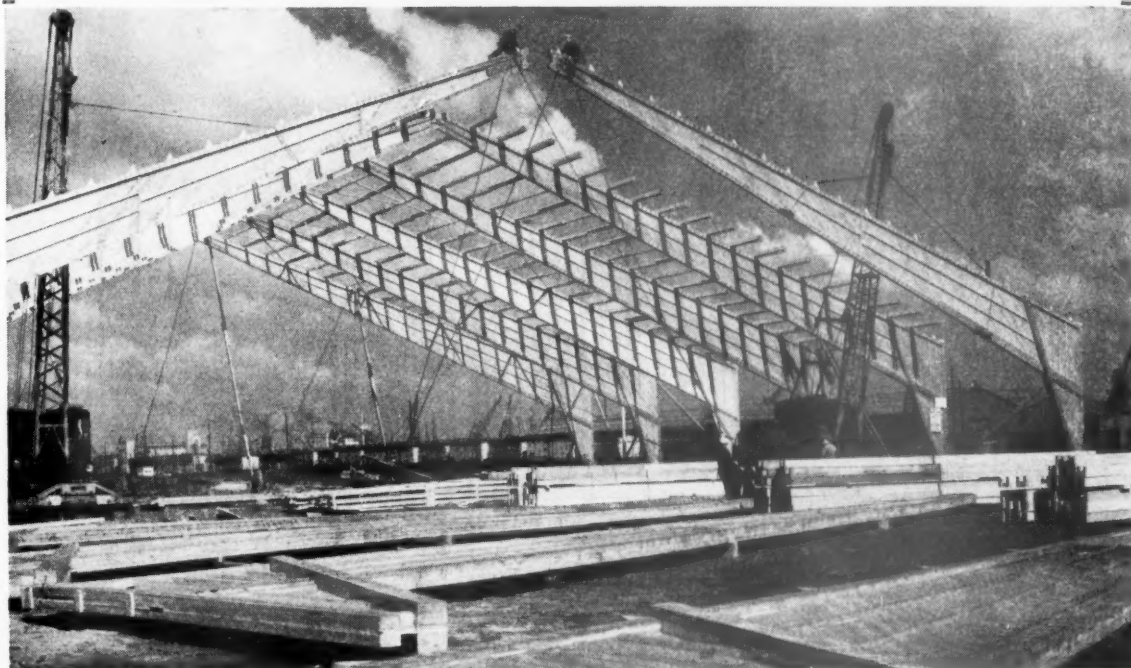
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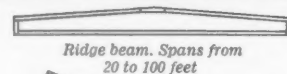
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Three pinned frame with vertical outer leg. Spans from 30 to 150 feet



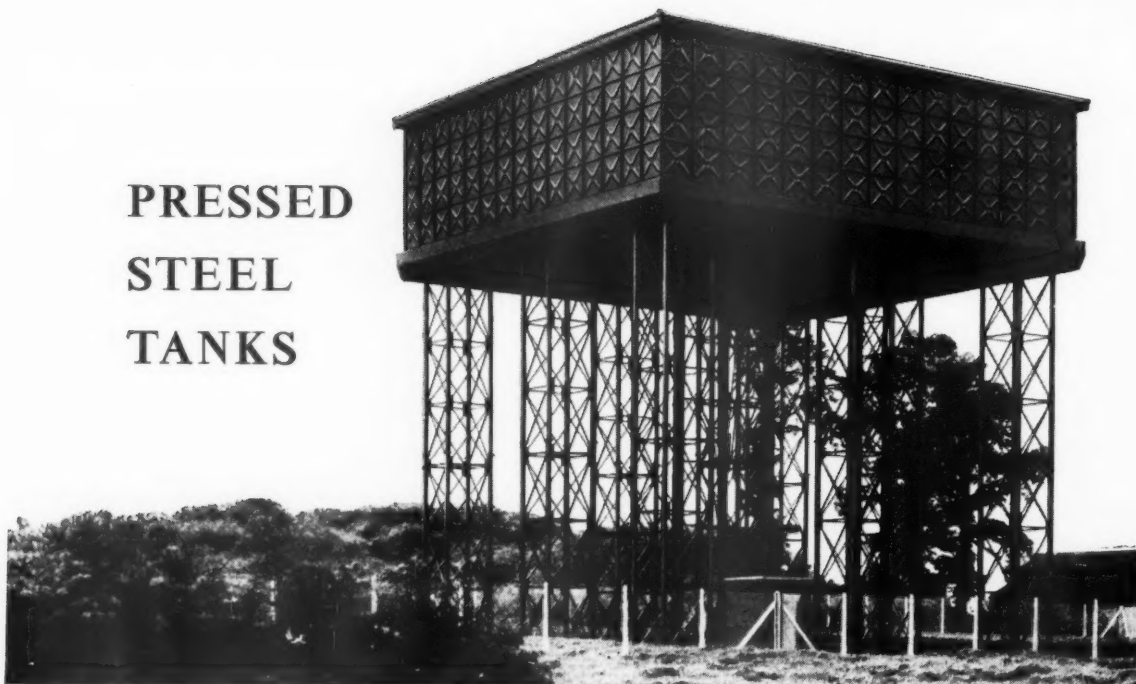
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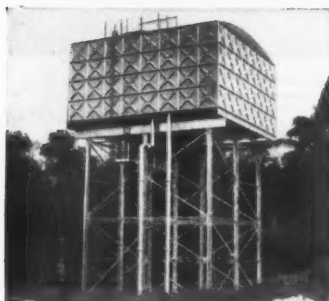
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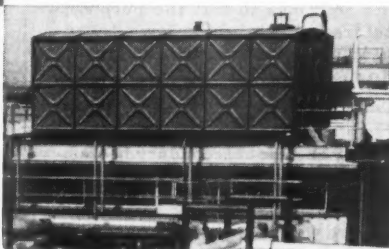
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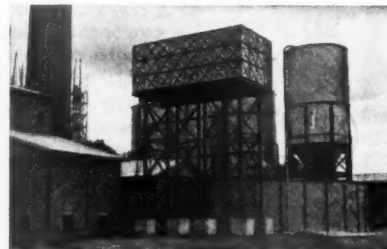
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*Storage tank for softened water at the
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(Photograph courtesy Tothill Press Ltd.)*



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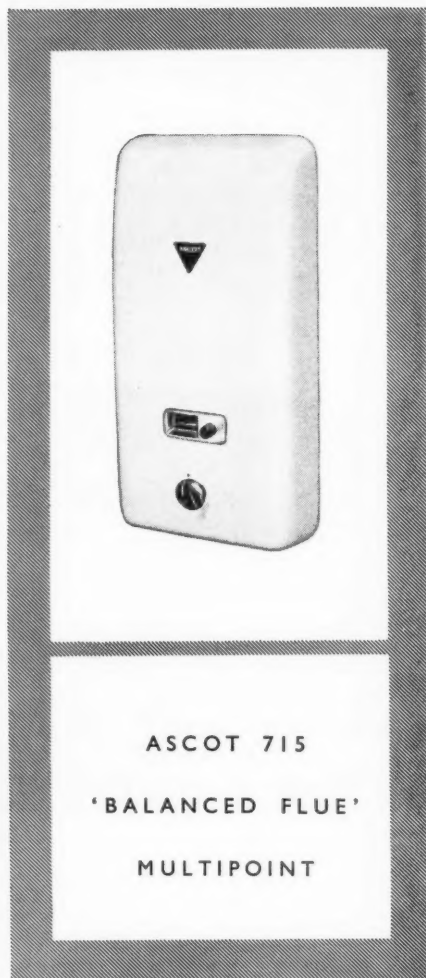
Expressed in a modern idiom, these new offices are in keeping with the world-wide prestige of I.C.I. The accommodation includes directors' rooms, boardroom, an electronic computer room, and three administration wings with a central service area. The Concrete Development Co. Ltd. undertook the structural work which is largely of pre-cast pre-stressed concrete. Facing bricks of three different colours combine with mosaic columns and continuous windows to provide a pleasing elevation.

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hot water for the working couples comprising most of the flats' tenants. The Ascot 715's were selected since they could be installed extremely compactly in the carefully-planned working kitchens of the flats.

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JUNE 1959

THIRD SERIES VOL. 66 NUMBER 8 THREE SHILLINGS AND SIXPENCE

EDITORIAL

Honours

Mr. Basil Spence, O.B.E., A.R.A., A.R.S.A., President R.I.B.A., has been elected an Honorary Fellow of the American Institute of Architects and an Honorary Corresponding Member of the Royal Architectural Institute of Canada.

The Retirement of the Secretary

A large number of members have subscribed to a presentation to Mr. C. D. Spragg on his retirement from the Secretaryship of the Royal Institute.

The presentation will be made at the R.I.B.A. by the President at 6 p.m. on 7 July followed by an informal cocktail party.

All members are invited. It is expected that many members will welcome this occasion to bid farewell to Bill Spragg at the end of his long service to the Royal Institute.

Exhibition of Chinese Architecture

On 9 July the R.I.B.A. will present an exhibition of 225 photographs, some in colour, of Chinese architecture. The exhibition has been prepared by the Association of Chinese Architects and will remain on view until 31 July (Monday to Friday 10-7; Saturday 10-5).

The exhibition is in two sections. The major section will illustrate historical Chinese architecture and town-planning, a continuous tradition of more than 2,500 years. As the main structural material has been timber, with masonry and brickwork used mainly for podia, screen walls, enclosure-walls and defensive and engineering works, early buildings are rare. Most of the actual buildings from Peking itself, though not the planning forms nor Peking as a town, which are far earlier, date from the 15th century and later. The exhibition will illustrate, however, all the most important earlier buildings, including a surviving 9th-century timber hall.

Besides palace, tomb and temple buildings, in Peking and elsewhere, the exhibition will illustrate domestic building and gardens, including some of the famous gardens of Soochow. There is also an example of the remarkable circular four-storey communal buildings or 'flats' (with balcony access) built by the Hakka people in Fukien. There will be some examples from Tibet, including the spectacular palace of the Dalai Lama.

The coloured illustrations will give some idea of the polychromy which was an important characteristic of Chinese architecture.

Engineering works will also be represented, including the superb Anji bridge of about A.D. 610, a single flat segmental arch bridge of 123 ft. span, whose forms call to mind Maillart.

A smaller section of the exhibition will illustrate some of the work in town-planning, industrial building, office buildings, hospitals and housing carried out since 1949.

Council Business

The Council met on 5 May with the President, Mr. Basil Spence, in the chair.

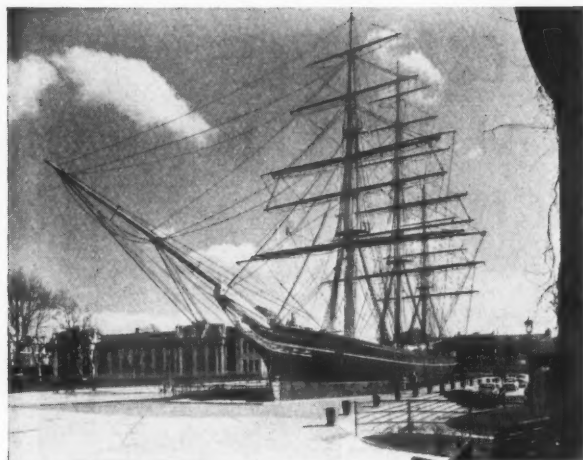
Formal approval was given to the award of an R.I.B.A. Architecture Bronze Medal by the jury in the area of the York and East Yorkshire Architectural Society in favour of the Riley Technical High School, Hull, designed by Andrew Rankine, O.B.E. [4], City Architect, Hull.

The Council also approved the publication of a textbook prepared by the Practice Committee entitled 'The Architect as an Arbitrator'. Arrangements are being made for it to be printed and placed on sale as an Institute publication.

The Council received a report from the Finance and House Committee who have reviewed all the circumstances relating to the publication and circulation of the R.I.B.A. Kalendar. It was agreed that the Kalendar should be published for 1959 and sent to all members and Students, and that it be published *annually* in future years but sent only to those members and Students who reply affirmatively to a note (which will be sent out) asking if they wish to receive a copy each year.

The Council had explained to them proposals made by the Finance and House Committee for the modernisation of arrangements for the reception of visitors to the R.I.B.A. Building and for dealing with inquiries. The entrance hall, inquiries desk and adjacent room to the right of the entrance hall will be modified to afford greater convenience to visitors awaiting appointments and others making inquiries. These proposals were approved by the Council.

Other notes from the Minutes of the Council appear on page 295.



Cover Picture

At the end of 1954, the famous old clipper, *Cutty Sark*, having been saved for posterity, was berthed in a dry dock specially prepared for her—she is 212 ft. long—close by the Royal Naval College, Greenwich, and adjacent to 1½ acres of public gardens.

The London County Council was the authority responsible for the design of the setting, part of which can be seen in the photographs, and *Cutty Sark*, re-rigged and open to inspection, is now a splendid object.

The L.C.C. has recently agreed to a proposal by their parks committee to buy and clear an adjoining site with some 150 ft. of riverside frontage. This will open up a fine view of *Cutty Sark* from the river and is a further step towards the total 3½ acres of open riverside public space envisaged in the development plan for this area.

President of the A.A. 1959–60

Mr. H. T. Cadbury-Brown, A.A.Dipl. [F], has been elected President of the Architectural Association for the year 1959–60.

He was born in 1913 and educated at Westminster School and the Architectural Association School of Architecture.

He started private practice in 1937 after winning a competition for British Railways Ticket and Parcels Offices, and after military service (1939–45) he taught at the A.A. School (1946–49).

In the spring of 1956 Mr. Cadbury-Brown went to the School of Architecture, Harvard University, as visiting critic.

He has been architectural tutor in the Sculpture School, Royal College of Art, a member of the MARS Group, taking part in the exhibition of 1938 and in the organisation of C.I.A.M. congresses in England in 1947 and 1951.

Mr. Cadbury-Brown was a member of the R.I.B.A. Council from 1951–53 and has been a member of the A.A. Council since 1953.

His work includes schools at Harlow, and Hornsey Lane, London; housing for the new towns of Harlow, Hatfield and Basildon, and for Hammersmith Borough Council; the pavilions for 'The Origins of the People' and main concourse layout and water display for the Festival of Britain South

Bank Exhibition 1951; interior design including the conference room for the Time/Life building, London, the art gallery at Nottingham University and the wardroom mess for R.N. Barracks, Plymouth; and exhibition and display work for the Council of Industrial Design, Federation of British Industries, National Farmers' Union, Chance Glass and Turner's Asbestos Cement.

Mr. Cadbury-Brown is at present engaged with Sir Hugh Casson [F] and Professor R. Goodden [A] on designs for the new premises for the Royal College of Art, Kensington Gore, on which construction begins in January 1960.

The Royal Academy

Lord Methuen [Hon. A] has been elected a Royal Academician, and Mr. Raymond Erith [F] has been elected an Associate of the Royal Academy.

Operation Face-lift

When Mr. Duncan Sandys, in his capacity of President of the Civic Trust, opened the Magdalen Street Project on 8 May, he said that the sum-total of small improvements had transformed the atmosphere of this street.

Some 600 visitors, including delegates from many local authorities, were present, and after lunch at Samson and Hercules House, went on to a conference at St. Andrew's Hall presided over by Mr. Sandys.

The President, R.I.B.A., following Mr. Sandys and the Lord Mayor of Norwich, said that he believed in the work of the Civic Trust and that any architects who had seen Magdalen Street would believe in it too. He was applauded for suggesting that the street might well be closed to traffic to form a pedestrian precinct where people would want to meet, and walk about and drink their coffee. Mr. Spence congratulated the Trust on its initiative and paid a tribute to the City of Norwich and to Mr. Misha Black and 'his faithful band of architects and designers'.

Other Conference speakers included Dr. Barnett Stross, Chairman of the Arts and Amenities Group of the Parliamentary Labour Party, Sir Gordon Russell, Director of the Council of Industrial Design, Miss Sylvia Crowe, P.I.L.A., the City Engineer of Norwich, two local M.P.s, and representatives of Government departments and professional institutions.

Mr. Black, who had been appointed by the Civic Trust and had prepared a manual to guide local architects in the 'face-lift', enumerated the small improvements mentioned by the Minister, which included: 66 properties repainted; 17 fascia boards repainted, and 30 re-lettered; 22 projecting signs and advertisements removed; 26 new shop blinds and 16 new curtains added; 6 street lanterns removed and replaced by 16 bracketed fittings; 11 'No Waiting/Loading' signs re-designed, and 40 other objects removed, replaced or repainted.

Mr. Black, having decided that the buildings above shop-window level must be brought into the scheme to produce an architectural entity, achieved this by the use of colour strong enough to impinge on people walking down the street. It is this skilful handling and co-ordination of bright colour that gives such a satisfying effect to the whole street.



PROFESSOR FELIX CANDELA paid a short visit to this country at the beginning of May to carry out a lecture tour organised by the British Council and the Joint Committee on Structural Concrete.

On 4 May Professor Candela met the Press. On 5 May he gave the first of his public lectures, illustrated with slides of his work, at the Friends House in Euston Road (there had been about 2,000 applications for the 1,200 seats), and repeated it during the next few days at Cardiff, Leeds, Edinburgh and Belfast. In addition Professor Candela addressed the students at the Cambridge and A.A. Schools of Architecture where he was enthusiastically received. The illustration is of his Herdez Factory, San Bartoli.

W.C.C. Conference for Architects at Geneva

An International Conference at Geneva from 6-12 May called by the Ecumenical Institute of the World Council of Churches was attended by 28 architects from eleven countries. Among those who gave addresses were Mr. Edward D. Mills, C.B.E. [F], Mr. G. E. Kidder Smith, U.S.A., Professor Ricci of Italy, Mr. K. L. Sijmons of the Netherlands, Professor Stefan Hirzel of Germany and Mr. Otto Senn of Basel.

The Conference discussed modern churches in the widest aspect and visited examples at Audincourt, Ronchamp, Basel and Solothurn. Afterwards a statement was issued which is given in full on page 279.

Discussion on Hostels, Hotels and Motels

Building types are one of the responsibilities of the Science Committee. These particular building types were chosen partly because it was felt that there had been a significant change in requirements during recent years, and partly to air the pros and cons of the dual use of buildings which arises from the use of university hostels and hotels in vacation periods.

The method chosen was an introductory summary of the subject given by the Chairman of the Information Sub-Committee of the Science Committee, Mr. Bryan Westwood [F], followed by remarks from a panel of experts who had been given the summary and also a list of questions to illustrate the sort of query from the audience, which they might be expected to answer. The proceedings were under the chairmanship of Mr. Richard Sheppard, Hon. Secretary.

The method of presentation produced lively exchanges between some of the parties, but it was a little disappointing inasmuch as some facets of the subject were not adequately covered while others occupied a disproportionate amount of time. Nevertheless it was a welcome change from a single

speaker and one which could be developed further so as to insure that many sides of a problem were discussed and one where so-called 'facts' could be challenged.

The ensuing correspondence in THE TIMES has shown up the same controversies as were apparent in the discussion, but the general sense of it seemed to bear out and amplify the points made in Mr. Westwood's opening remarks:

1. There is a shortage of rooms of the kind people want and, with the continual increase in the numbers of people travelling, this will become more apparent.
2. The dual use of university hostels is feasible and not undesirable.
3. New hotels could be less ponderous.
4. Motels, even though hardly justified for the short routes of this country, may well form the ideal accommodation for touring motorists. A report appears on page 276.

Seminar on Cost Control for Teachers in Recognised Schools of Architecture

Pursuing their policy of holding advanced courses for the benefit of teachers in recognised schools of architecture, the Schools Committee of the R.I.B.A. Board of Architectural Education is organising a two-day Seminar on Cost Control from Wednesday evening 21 to Friday afternoon 23 October at the Royal West of England Academy School of Architecture, Bristol. The Chairman of the course will be Mr. R. Baden Hellard [A], and detailed arrangements are in the hands of Mr. Evelyn Freeth [A], Head of the Bristol School of Architecture.

As at the previous Seminar on 'Heating', members are to be restricted to one teacher from each of the recognised schools of architecture, and it is hoped that those who attend will go back with a clearer idea of how cost consciousness can be brought into the curriculum at their schools.

The course will be organised under two main headings: 'Cost Consciousness' and 'Budgetary Planning'. The papers for the first will be by Professor J. V. Connolly (Director, Sundridge Park Management Centre); Mr. V. H. Johnson (builder) and Mr. Bernard Heaphy (Senior Contracts Manager, Bovis, Ltd.). For the second, they will be by Mr. J. Nisbet (Chief Quantity Surveyor, War Office) and Mr. W. J. Reiners (Building Research Station).

The lectures will be followed by group discussions, and a winding-up discussion at which Professor Denis Harper [F] will take the chair. The purpose of these discussions is to allow time to hammer out the best ways of overcoming the difficulties of bringing cost consciousness into schools of architecture.

The Seminar papers will be published subsequently in book form. Further particulars concerning cost, accommodation, etc., will be given later.

R.I.B.A. Diary

TUESDAY 16 JUNE, 6 p.m. General Meeting. Council Election Results. The President, Mr. Basil Spence, O.B.E., A.R.A., A.R.S.A., is giving an illustrated talk on his visit to Africa entitled 'Spence on Safari'.

FRIDAY 19 JUNE, 8.30 p.m. to 1 a.m. A.B.S. Midsummer Ball. Tickets still available, 25s. each, from A.B.S. offices.



The 121st Annual General Meeting of the R.I.B.A., 6 May 1959

Mr. Basil Spence, O.B.E., A.R.A., A.R.S.A., President, in the Chair

THE PRESIDENT: I have to present the Report of the Council and Committees for the year 1958 and to move that the Report be received.

The Chairmen or other representatives of all the Committees whose reports are appended to the Council's Report have been asked to attend this meeting so as to be in a position to answer any questions that may arise in connection with these reports.

Mr. Richard Sheppard (Hon. Secretary): I have to second the motion that the Report be received.

The President: The meeting is now open for discussion. I propose to take this Report page by page.

THE ALLIED SOCIETIES' CONFERENCE

Mr. G. Grenfell Baines [F]: Now that constitutional decisions are being made, it might strengthen the Allied Societies, generally speaking, if the Council were to give them specific tasks to do. A great deal of time and money is spent coming to committee meetings in Portland Place, but I feel sure there are people in the field who might be able to do good work for the Council if they were to make that request. Could that be borne in mind?

Mr. Richard Sheppard: I am sure it will be taken care of, because the Ad Hoc Committee intends to ask the Societies where there are not other organisations like the Society of Official Architects who can get information in that way. I hope work will be done in the field in those forms.

Mr. Thomas Mitchell, M.B.E. [A] (Chairman, Science Committee): May I say that the Science Committee has already considered this very point and is very much in favour. It is proposed to put forward a scheme for the Allied Societies to do that very thing.

The President: I do not know whether the Chairman of the Constitutional Committee would like to talk about this and about the strengthening of the position of Allied Societies to do work of this kind.

Mr. A. W. Cleeve Barr [A] (Chairman, Constitutional Committee): The Constitutional Committee is not charged with the problem of considering the structure and the committees of the Institute. I think

that is something which the Executive intend to look at shortly. But I do agree that if the Allied Societies could be brought more into the work that the Committees are doing, it would be a good thing.

It is rather difficult to see just how to go about it, but an Allied Society could certainly help to answer some of the questions we are now considering on the Council, such as urban motorways. Surely this is the sort of subject that could best be contributed to by the Allied Societies in their areas.

I think the actual proposals of the Constitutional Committee only impinge on this to the extent that one is proposing that the representation of members on the Council shall be elective. The Allied Societies will be represented on the basis of one representative to 400 members. This should enable them to participate rather more than at present.

The President: Thank you very much. We have taken note of what Mr. Grenfell Baines has said.

Mr. R. A. Simons [L]: As Chairman of the Committee on By-laws and Building Regulations, I can state that that Committee has on at least one occasion consulted Allied Societies for information particular to their own districts.

Mr. Norman H. Fowler [F]: As Chairman of the Allied Societies' Conference, I should very much like to support what Mr. Grenfell Baines has said. During this year, at our three meetings, we have endeavoured to consider points which have been referred to the Allied Societies. On the agenda yesterday morning there were two points, one the question of the role of the architect, put forward by Gordon Ricketts. This was discussed, is being referred back and is to be rediscussed at the next Conference. I should like to feel the Council might charge the Allied Societies to consider matters where they can help.

The President: Thank you very much.

Mr. K. D. Burbidge [A]: I understand there is no Allied Society for Middlesex. Can you tell me why this is so, please?

The President: My advice from the Secretary is that it will come out in the report of the Constitutional Committee and we should wait until that comes out. They are working very hard. They are meeting every fortnight.

THE BOARD OF ARCHITECTURAL EDUCATION

Mr. D. H. McMorran, A.R.A. [F]: There are two questions I should like to ask on the Board's Report.

I note that under the section headed 'Oxford Conference' it says that a committee is considering the question of what is called a 'second category' in the profession. I should like to know whether the committee is doing that under a directive from the Council.

The other question comes under the heading 'Recognised Schools'. I am very glad to see that there is a move to institute what is called a 'composite' or 'sandwich' course in Manchester. My own view is that that kind of course is of very great value and has great potentialities, but I am not clear from the wording of the Report whether the course has or has not been recognised.

The President: The answer to the first question is that it is under the directive of the Council. I will ask Mr. Beaty-Pownall to reply to the second question.

Mr. D. H. Beaty-Pownall [F] (Chairman, Board of Architectural Education): The Manchester course has not been recognised yet, but it has been decided that it qualifies for a visit later on when it has completed its cycle of years. It is, in fact, eligible for inspection for recognition but, of course, it is not recognised yet.

The President: For the information of members, it is necessary to have a cycle of years before the necessary work has accumulated for inspection.

Mr. McMorran: Could we be told how many years?

The President: Seven years.

Mr. Leonard Howitt [F]: This is not a new move? The course is actually in operation?

The President: Yes, the course is in operation.

Mr. G. B. Oddie [A]: On the question of the two-tier profession, which Mr. McMorran brought up, we have remarks on this as part of the deliberations of the Board of Education and what the Board of Education believe, as well as those concerned with the Oxford Conference. The idea of a two-tier profession would not be accepted without considerable demur.

There is, I believe, a large body of the existing profession many of whom are sympathetic towards the idea that one man alone cannot perform all the tasks that are required of an architect, and architecture nowadays must be the product of a team rather than an individual. But they are seriously alarmed at the prospect of a two-tier profession where one tier is above the other and where the chap down below does all the donkey-work and the chap on the top is a prima donna with a 6-B pencil.

The President: Thank you very much, Mr. Oddie. That is noted.

Mr. John Smith, A.A.Dipl. [A]: I notice that Hammersmith has been recognised and I believe Bristol is going to be very soon. My question is whether it is still the policy of the Council to continue to increase the numbers of recognised schools.

I have some observations on this which are connected with the Oxford Conference's proposals which I know now have been brought into effect since December and are therefore not included in the Report. Mr. Sheppard spoke of the number entering the profession being reduced ultimately to approximately 500 a year, which might mean an intake per annum of 600 at any one time. I am wondering if the situation might not arise when we shall have too many recognised schools of architecture in this country and if you are taking any steps now to cut down, perhaps, rather than increase the schools.

Mr. Beaty-Pownall: The present position with regard to recognised schools is simply that they are recognised or not on merit. Any school can apply, and if it is inspected and reaches the required standard in every way, it can be recognised on merit.

The President: I think that is clear enough. It should be done on merit and so the number of schools may reduce itself and your thesis will be satisfied. There will be less architects trained. It is quite clear that schools will be recognised on merit. There are always schools abroad, certainly, that will apply for recognition, and it is not for us not to recognise them if they are up to the required standard. I think that is the situation. Does that answer your question?

Mr. John Smith: It does answer it, yes. So there is no minimum size, shall we say, that may be considered efficient.

Mr. Richard Sheppard: I think the answer is that the Board is obliged to consider a school on its merits and cannot take account of the findings of what is called the Oxford Conference Committee. It is likely that the effect of the adoption of that Committee's report will mean eventually a change in the number of schools, because if you are only taking in people of 'two "A" levels' it tends to concentrate the number of people in training at the schools, either university schools or schools qualifying for a degree in higher technology or something like that.

That will be the position over a long series of years, but it is impossible to say at this stage what effect it will have on the total number of listed schools. The information we have shows that the number of students attending all schools having two 'A' levels is very different from the number of students attending university schools or schools attached to them. Does that answer your question?

Mr. John Smith: Yes, that does answer it.

PUBLIC RELATIONS COMMITTEE

Mr. William Home [A]: I am very interested in the letter sent to Clerks of all Planning Authorities and very much in agreement with it. I am wondering whether you have received any replies indicating the effectiveness of that letter of appeal, and also whether or not you know of any planning authorities which do not permit planning applications to be submitted by unqualified persons.

The Hon. Lionel Brett (Vice-President, and Chairman, Public Relations Committee): I understand the only replies we have received have asked for more copies, which is better than nothing. We have had no comment of any sort.

I do not know the answer to your second question, but I think it is most unlikely that there are authorities which do not permit applications from unqualified persons. Probably someone else may know more than I do.

Mr. Leonard Howitt: No planning authority has power to reject plans that are not submitted by a qualified architect. That would have to be the result of Parliamentary legislation.

The President: It is not very satisfactory, but I think that is the answer.

Lieut.-Colonel Lesslie K. Watson [F]: I am sure we are all very interested in the new shape of the Annual Report and would like to welcome it. It has been put into a very lively dress.

I should be pleased if the person responsible could tell us something about the new R.I.B.A. policy on typography. I am particularly interested in the size of the sheet, which is taller and narrower than before. I was wondering whether we are trying to stick to any size of page, whether it is a British Standard, and if by any chance it is a British Standard whether it is likely to remain such or whether we shall have to change it every time the Standard changes. It would be interesting to know whether it is a move to make all technical literature this size, or whether it is just an economic size of paper.

The Hon. Lionel Brett: As far as the design side is concerned, what we have done—as I think we have reported here—has been to appoint a designer. When you appoint a designer, as we know, you leave

it to him. There will be, as a result, one mind looking over everything we put out and there must inevitably be consistency in what we do. If you look at the posters that come out now for our sessional papers and so on, you will see the kind of approach that Mr. Herbert Spencer is adopting. We cannot, of course, do it all at once, because we can only replace some of our more permanent literature as and when it comes for printing. Therefore, it is a long business and we can only gradually infiltrate good design and consistency, and that is what we are going to do.

I dare say the Chairman of the Science Committee would like to speak on standardisation.

Mr. Thomas Mitchell: There is a note here, I think, briefly that A.4 is a paper of the series of international paper sizes for technical literature which has been adopted for all Institute publications. The building industry as a whole is gradually adopting these sizes for technical literature.

The President: It is our policy that we want to come into line with other technical literature.

Mr. G. B. Oddie: I am surprised no one has yet been bursting to say how jolly good this Annual Report looks. The Public Relations Committee deserve great credit indeed for having taken this step to get R.I.B.A. publications looking as though they had been designed. But I have a brick for them, as well.

The President: I am sure they appreciate the bouquet.

Mr. Oddie: They are doing noble work, as they should be doing, to advance the importance of architecture in the public mind. They sometimes, however, equate good architecture with employing an architect. The R.I.B.A. should face up to the fact that there are sheep and goats amongst us, although I need not specify, I hope, which are which. Unless the Public Relations Committee and the R.I.B.A. as a whole can decide what services an architect should be able to offer and tell the public that, I do not think you will get very much further if the architect does not give those services.

The President: Thank you. I think we all know what you have in mind. You have put the position concisely.

Mr. Oddie: The word 'good' goes with the word 'architect'.

Mr. Cedric Bond [A]: We find so many buildings, particularly small houses, being designed by people other than architects. I feel that not enough use is being made of the national Press, and something in the way of a campaign would be a good thing, both for the advancement of architecture and in the interests of architects themselves.

To that end, I wonder whether the Council would consider the appointment of a Press Officer who would be skilled in dealing with Press matters.

The Hon. Lionel Brett: We are getting more in the Press and on radio and television than we have ever had before. Everyone must have noticed that we have been not only in the national dailies but also in all sorts of new spheres where we have not appeared before.

I do agree, though, that we could do more and I think there is a lot to be said for investigating the question of a Press Officer. This we are doing, but it is a question of finding the right man. The wrong man could do more harm than good.

I should like to say one other thing on the question of publicity for architects, particularly since the Allied Societies have been mentioned. I know my Committee would be grateful if something could be done about this old business with which we are all so familiar—architects' names not being put on buildings illustrated in the Press. Perhaps something could be done locally whenever it happens. It seems to be getting a little better, but in more cases than not the architect's name is left out. Local societies might keep an eye on this.

The President: I completely agree with what Mr. Brett has said. In Africa this was discussed by the Council, and we made a point of saying every time the word 'architect' was seen in print it was a blow struck for the profession. It is true that if a building appears, the 'author' somehow should be identified with that building. After all, architecture is an art. When one sees a painting or a sculpture one always has the artist's name. Therefore, there is no reason why in the case of a building the artist's name should not appear.

I would endorse what Lionel Brett has said and if local architects would take that up in their own areas it would do a great deal for the profession as a whole.

Mr. Clive B. Thompson [A]: Is it possible that the Ministry of Education could in their general education in schools be brought by the Committee to introduce more architectural appreciation in their art courses? These young children are growing up and we hope they will have good taste in architecture. I feel that the seeds of their education should be sown in the young far more than they are now. This is only a suggestion which I think is needed. Will the Committee look into that question and see whether they can put out propaganda, particularly to the schools?

The Hon. Lionel Brett: We have discussed this problem and it is our opinion that the teachers' training colleges are the place to go. We have somehow to get our school teachers interested in the appearance of things. Therefore, we have suggested to the Allied Societies' public relations officers—who come here once a year—that they should try action locally to interest teachers' training colleges in appearance and if possible offer the services of architects as lecturers.

The President: There is a passage in the Report under 'Visual Education' dealing with this subject.

Mr. R. Allport Williams [F]: My Society is the Preston Society, and we find the response from teachers' training colleges absolutely nil. But if the local society takes the trouble to organise a one-day sixth formers' conference to get at the future patrons of architecture, they will find they meet with immediate and very satisfying success.

Mr. A. G. Sheppard Fidler (Vice-President): The answer is not the same in all districts. In Birmingham I understand it has been taken up enthusiastically and architects have been appointed to talk in teachers' training colleges.

Mr. Frederick Napp [A]: In Devon and Cornwall we took note of what the R.I.B.A. said some months ago. The Society and its branches are busy delivering lectures and forming collections of slides, writing up lectures which volunteer architects are proposing to give to sixth-form students at grammar schools and public schools in the area. We have already approached the educational authorities, and we have had their blessing. As soon as we are ready—and we are fast approaching that state—we are going to branch out and give lectures to any sixth forms that care to receive them.

Mr. G. P. Bell [A]: In Northern Ireland our Society has done something similar. We put on a special exhibition for sixth-form grammar school children whom we invited to see models chiefly of interest to children. It was a most successful enterprise and interested a number of children and their teachers.

Before leaving the subject, we should not forget to mention the B.B.C. feature in Children's Hour which I thought was very successful. Lionel Brett was one of the speakers.

Mr. Paul Mauger [F]: In East Anglia, teachers' training colleges are taking great interest in the idea of putting the visual approach across to students. The reason for approaching them is that you can cover so much more by attracting fewer institutions—about 200 training colleges instead of thousands of grammar schools. The coverage is more easily achieved throughout the country in that way.

PRIVATE PRACTICE SUB-COMMITTEE

Mr. William Home: I am surprised to note that there are only three members of the Private Practice Sub-Committee as compared with the numerous members of other sub-committees. I hope this does not indicate that there is a feeling that this subject is not of importance. It is very important.

The President: The answer is 'the less is more'.

SUB-COMMITTEE ON THE APPOINTMENT OF ARCHITECTS AS CHIEF AND PLANNING OFFICERS TO LOCAL AUTHORITIES

Mr. Arthur Ling [F]: I want to say a brief word on this very short report of a very small committee at the bottom of page 18.

I think it is a measure of the failure of this Institute that there are still 38 important County Boroughs which still have no Chief Architect. I hope that although this is a small committee and a small report, the subject, which is very important indeed, will perhaps move upwards to the Council and during the year become one of the main issues.

We found recently, when the question of urban motorways arose, that architects were not in the key positions for planning and even architecture in these County Boroughs. One cannot press for the architect to be the planning officer if there is no architect. We shall continue to meet with difficulty in getting our point of view across until we have established that every urban authority of reasonable size should have an architect. Only then can we press for the architect to be responsible for civic design.

I think the time has come when some move should be made to get statutory recognition for architects as Chief Officers to local authorities. There is statutory recognition for the Town Clerk, the City Engineer and the Medical Officer of Health. The Education Officer has almost got that same recognition. But the architect is not recognised. You do not have to have an architect, but you do have to have a City Engineer. I would have thought that the record of achievement of the members of this Institute working in public authorities since the end of the war—even if you only go as far back as that—is such that we have a very solid claim to make to the Government, and I think it is to the Government we have to make it, for statutory recognition of architects as essential officers in local authority work.

The President: Thank you very much, Mr. Ling. All we can say is that we agree absolutely, and on the Council we will discuss it at a very early date. I must say I feel very strongly that we should try to plan something.

RE-BUILDING No. 68 PORTLAND PLACE AND ADDITIONS TO No. 66

Mr. George Whitby [F]: When the financial squall broke out in about February last year, we were told the main cause was a £100,000 shortfall in the Building Fund. Two months afterwards, we were told that the shortfall—should we call it the projected over-spending?—would be £73,000. At last year's Annual General Meeting the Honorary Treasurer told us the Finance and House Committee had decided upon the absolute minimum necessary and were able to reduce the amount from approximately £100,000 to £70,000. In January of this year we were told obliquely that the

Committee 'had been advised' that this figure would be about £91,000. We are now told that 'the anticipated deficit of between approximately £73,000 to £100,000 between the Premises Re-building Fund and the estimated cost of the work can now be determined at approximately £91,000'. I suggest that the veracity of that statement is somewhat attenuated. It is deliberately misleading in more ways than one.

First, there is the suggestion that the original guesses were ranging shots. They were never put to us in that way. Secondly, there is the suggestion that the £91,000 is comparable with either of the other two figures. Owing to delay in re-building we have saved in effect another £7,000, and £98,000 would be a more comparable, a more honest figure. I should like to know whether £91,000 is a guess, and if so whether there is a more up-to-date figure.

The President: It is rather an intricate question. It would perhaps be better if the Honorary Treasurer would answer it.

Mr. E. D. Jefferiss Mathews (Hon. Treasurer): We are dealing with buildings with which most of us are very familiar. We are dealing with the question of the anticipated cost of building before it starts, while it is on and when it is virtually finished, but the final accounts are not available. We are dealing with a question of final accounts and claims made by contractors. I think it is fair to say that most of us here who are architects know more about that than anybody else.

Now we are at the receiving end. We are the clients, and we can see some of the difficulties clients have to put up with when we are dealing with them.

The position is this. The total final costs of the building works here at No. 68 and the additions to No. 66 are anticipated to come out at something less than £225,000. I say something less. We are still waiting for the final account, and we have been informed by our architect that there are certain claims that have been submitted by the general contractor which are under study. We have allowed for these claims. Our architect may be successful in negotiating at a lower figure—a matter perhaps of £4,000—under the total amount. It is true that at various stages during the building and towards its end it was necessary to report either at Annual General Meetings or Special General Meetings the state of progress of the building. We were uncertain of the amount by which the Building Fund that was available would fall short of the requirements. The original estimate was £100,000. We endeavoured to get it down below when the mortgage which we obtained at a time of fairly critical national financial restriction, although we applied for £100,000, was granted by the Capital Issues Committee at £70,000. We made the most careful examination that we could of where savings could be achieved in order to bring down the difference to the amount of the mortgage allowed to us. We could only have done this by paring down to an

extent which we thought completely inappropriate in the circumstances of this building because of a local or national financial situation and because of our own difficult financial position at the time. This would have been quite wrong. We therefore took a bold step and although we did reduce certain refinements, shall we say, in the building we finished up with a difference of £91,000, allowing for the claim which may and I hope will still be reduced, between that and the Building Fund.

We have therefore had to find £21,000 out of current account. By the handling of the accounts generally, during this difficult year, in order to maintain the activities of the Institute as far as possible and before the new subscription rate became operative, we have managed to find that £21,000, which has been set aside to meet the final cost of the building. In the accounts for the year ending in December 1958, which we are considering now, it can be said that we have finally paid off all the costs of the building except the remaining £70,000 on a 20-year mortgage with amortisation of decreasing liability. We have also found £21,000 and if our architect is successful in dealing with the final account and claims, it may be a little less than that.

The President: Does that answer you?

Mr. Whitby: The meeting will decide whether that answers me. At least, time will show.

The Honorary Treasurer explained how we made up this deficit. He did not give you quite the whole story. The Liverpool Victoria were very friendly and lent us £70,000. We ourselves, of course, economised and helped to give more from the general account. But at the beginning of the year we were far from sure the funds in the general account would be sufficient to cover the shortfall. The Council thought it must get more money from somewhere. The only course open to it (it could not put subscriptions up until this year) was to increase examination fees and entrance fees to this Institute. I suggest that it screwed every possible guinea out of young students sitting examinations or attempting to enter.

As a result, we have not only paid £21,000 to the builders, but put £11,000 in the Development Fund, and the Finance and House Committee are congratulating themselves. It was admitted last year by the Honorary Treasurer that there was a profit on examinations, and it was clear this profit was going to go up if the fees went up. And up it has gone. I should say it is the amount we put in the Development Fund—£11,000. I suggest this is money we have squeezed out of these young students. The Honorary Treasurer says—I quote his very words—that 'this seems to be right and fair. Anyone who wishes to enter this profession, whether he is financed by himself or his parents or some other source, has full knowledge of what it costs to become a qualified member, and if he does not like paying that cost he need not become

an architect. This is in the nature of a premium on membership of the R.I.B.A.'

Now, no doubt he holds that view sincerely. Others may agree. But it is not the whole story, and here I come to a very serious point. It is not a premium on membership of the Institute—it is a premium on being admitted to the Statutory Register of Architects.

This Institute, through the agency of its Registration Committee—a committee, as I have pointed out before, whose membership is anonymous and whose report is unprintable—exercises a practical monopoly of the Architects Registration Council of the United Kingdom. It prevents any person intending to become an architect getting on to the Register without taking the examinations of this Institute, whether that person wishes to become a member of this Institute or not. I think the first action of the Council should be to reduce the examination fees, so that it cannot be said that we are making money out of our monopoly. I suggest the Council considers that at its next meeting and immediately rescinds the extras it imposed so glibly.

Mr. Jefferiss Mathews: I will talk about the finance side but far be it from me to talk about the educational side. This question has, of course, been raised before—the question of examination fees and increasing the fees and the return that the Institute obtains from these fees. The Council are the first people obviously to accept that we do. There is, however, a point to make which is somewhat lost sight of and is not shown in the accounts on account of the general principle of accounting here. You cannot take the direct expenses of holding the examinations and deduct those from the fees obtained and say that the result is the total profit. No charges are made, because the accounting is not done separately, for the staff organising the examinations here, rent, heating, lighting, cleaning, general administrative charges. But even if a fair assessment of these is made, there is still, if you like—we will be quite frank—a profit margin.

This matter has been considered by the Council during the time I have been Honorary Treasurer. I have asked the Council to consider it on every occasion the accounts have been dealt with and the Council have on each occasion approved the principle, which is an old tradition of the R.I.B.A., of making some profit—and I am speaking very plain words—out of the examination fees. It is true that at the last time a member of Council specifically asked that this matter be reconsidered when the general financial position was sounder. No doubt if Council and the Annual General Meeting consider the financial position is sounder, it will be subject to reconsideration again at each half-yearly interval when the accounts are considered. If the Council think fit to reduce the examination fees so as not to make that income from them, it is up to the Council to do so.

It is perhaps worth mentioning in this

respect that we find the majority of other professional bodies similar to ours do in fact cover themselves by a wide margin on their examination fees. As I have said at the Special General Meeting—and this has been quoted by Mr. Whitby—it is in the nature of a premium which students are asked to pay for the privilege of sitting for these examinations with the goal in front of them of becoming members of the R.I.B.A. It is not something secret. It is not something which is surprising to them, at the time they take them. It is the confirmed policy of the Council.

I can add no more than that in respect of the examination fees as such. No doubt Mr. Beaty-Pownall will be able to deal with the matters on the educational side that Mr. Whitby has raised.

Mr. D. H. Beaty-Pownall: The Secretary has the relevant sections of the Act. Perhaps it would be helpful if he referred to these first.

The President: We shall be very pleased if he will refer to the question.

Mr. Everard Haynes (Secretary to the Board of Architectural Education): I must correct Mr. Whitby on one point. There is no statutory duty laid on the Registration Council to hold examinations. Section 5 (2) of the 1931 Act lays it on the Board to recommend to the Council the recognition of any examinations which ought to be passed in order to qualify or the holding of any examinations which ought in the opinion of the Board to be passed by applicants for registration.

The key words are 'in the opinion of the Board' and the Board have recommended against the holding of a separate examination for registration. That was approved many years ago and has been confirmed in subsequent debates by the Registration Council. It is only when the Board recommend to the Council the holding of its own examinations for registration that the last words of Section 5 (2) come into operation which are: 'and to hold examinations in architecture in accordance with this Act'.

Mr. D. H. McMorran: I think the meeting is missing Mr. Whitby's point. I do not think he has contradicted anything that has been said. His point is that in the privileged position in which we are in this Institute of being given control by the country of the system of architectural education, we have a very great responsibility for conducting these affairs in the best interests of the public and of architecture, and when, as Mr. Haynes has just told us, the Board many years ago came to the conclusion that independent examinations need not be held by A.R.C.U.K., they perhaps did not visualise the day when this Institute's finances would be in such a position that we had to use our power of imposing an examination fee to improve our position. This is the point: that we should be, like Caesar's wife, above suspicion in this matter. Mr. Whitby has raised a very real point: that we should not

put into reserve amounts which so conspicuously tally with the product of examination fees.

The Honorary Treasurer has referred to the practice of other professional institutions. I should be interested to know whether other professional institutions merge these fees into their general account. I cannot understand these accounts: I never could. Some years ago I showed them to a chartered accountant friend of mine, and the very first thing he said was, 'My goodness, you put your admission fees in your general account! What an immoral thing to do'. So I suppose chartered accountants keep their admission fees separate. If the Institute's accountant is here perhaps he could help us. But do not let us be under suspicion of not doing the right thing in this matter. I think that is what Mr. Whitby is trying to say, and I support him.

The President: The point is this. It has already been discussed in Council. It is under review, and what you are saying is already known by Council. We will record your opinions and when it comes up for review again they will be noted, and that is about all I can say about that. If it is the policy of the Institute to get a slight margin of profit on examinations, it is up to the Council to decree that or otherwise, I would say.

Mr. John Smith: The margin cannot be considered reasonable. Take last year. The expenditure on examinations and prizes amounted to £7,083. This year it is £5,800 which is a saving of £1,200. On the income side, the figures for examinations and other fees have gone up to £6,000 and entrance fees have gone up £1,400. That is a total of £8,600 and overheads will surely not vary all that much.

The President: I will ask the Honorary Treasurer to reply.

Mr. Jefferiss Mathews: I should have made one point before, if I may take the opportunity to come back to the question. Conscious that it is obviously critical and controversial, the Council—as I have explained—have continued to keep it going. We are in fact improving conditions for the holding of examinations in this building in respect of artificial lighting and space, particularly for the design subjects, giving the students a two-unit space instead of a one-unit space to spread themselves, buying furniture for that purpose and endeavouring to make improvements of that kind.

As to the actual figures for profits that have been stated, I am not disputing the figures at all, but in 1957—and it is approximately the same this year—the balance, after allowing for all the expenses contained under examinations, is approximately 30 per cent. Out of that has to be calculated, if we look at this fairly from the purely accountancy aspect, as I have said before, rent and rates, accommodation, in other words, and all that goes with it, such as cleaning, stationery, postage, staff salaries,

telephones and all other expenses connected with running any administrative organisation. It may be that in the future it will be decided by Council that we shall adopt a separate accounting system for every department of the Institute. Obviously there is much to be said for it, but there are many technical difficulties against it. It could only be an approximation at the best because it would be wholly uneconomic to run this building entirely on a departmental basis. However, there may be a case for a theoretical departmentalisation, itemising as we have done, you will see from the Annual Report, in respect of Library and to some extent Public Relations, and some of the expense in connection with the Development Fund. Until this is done, we cannot make an accurate assessment of this amount of 30 per cent.

The President: There is one thing we should remember, I am reminded by the Honorary Secretary: if the findings of the Oxford Conference are put into force, there will not be any examinations in this building and the question will die quite naturally.

Mr. John Smith: That is all the more reason for reducing them immediately.

The President: That is a matter for the Council to decide and your opinion will be recorded.

Mr. Arthur Ling: I am one who made a reservation about this when it came up to Council, because I felt that the examination fees should be kept as low as possible, bearing in mind all the Institute gives by way of facilities and the trouble that the organisers go to and the help they give and the help given by the staff of the Institute as a whole. But I do think it is a pity that this is being turned into a question as to whether the action of the Institute is a moral one or not.

As I see the situation, there was a financial crisis and all the various sources of income to the Institute were looked at. All the fees, entrance fees, subscriptions and so on were raised and if one looks back one can say that they roughly followed a sort of cost of living increase since they were previously raised. It has turned out this year that we are in a slightly more favourable financial situation than was anticipated, and I shall certainly press for something to be done to reduce this subscription. But I must say I think it is a pity in the circumstances that this issue is being taken up in the way it has been taken up. I think most members of Council have the intention of doing something about it, but they just could not do anything about it while the financial crisis was still at its height.

The President: Thank you very much. I must endorse what Mr. Ling has said. It is constantly under review, and it is up to Council to decide.

Mr. A. W. Cleeve Barr: I second what Mr. Ling has said.

As a new member of the Finance Committee, I think (if Mr. Jefferiss Mathews

will permit me to say so) that he is understating the amount of consideration given to this matter on the Committee. It was on account of the uncertainty as regards some of the items of the Building Fund, the need for the staff to work out the departmentalisation of expenditure, and so on, that we deferred this question and the Committee as a whole is coming back to it. Many members of the Council are very sympathetic to these views and we are restudying the level of examination fees.

Mr. D. H. McMorran: I am delighted to hear that. Could we be told what we collect from students who sit examinations not in this building but from recognised schools?

Mr. Everard Haynes: Recognised school students: twenty guineas up to exemption from the final examination; six guineas probationership; nine guineas intermediate; five guineas final exemption.

Mr. McMorran: Am I right that this Institute is involved in no cost at all except correspondence?

The President: It is getting a bit out of hand and out of proportion, too. There is the whole cost of maintaining the establishment, maintaining the opportunity of architectural education, which has as its objective the training of students, and this is just part and parcel of it. You have raised the question whether this is too much or too little. I know that I did not regard paying the proportionate amount in the old days for the honour of being an Associate as too much. I feel it is plain business to pay for a thing. Why should these things be free? I am speaking personally. I was delighted to pay my three guineas or whatever it was then, and I think students now should also be delighted to be made members of this Institute and not complain about paying for it.

Mr. McMorran: It was not statutory in your days nor in mine.

Mr. C. P. Howells [4]: Would it be helpful if some inquiries were made as to the level of examination fees for students in other professions? I have a shrewd suspicion that the medical profession's fees are much higher.

Mr. Jefferiss Mathews: I can help a little. The medical profession's, as far as we could ascertain, are higher and it is extremely difficult to draw a direct comparison. The medical profession, through the hospital education system, is so complex it is almost impossible to deal with it. But we have the rates of other bodies—the Royal Institution of Chartered Surveyors, the Institution of Civil Engineers, the Chartered Accountants. I do not know whether you wish me to read them, or I can make them available to the speaker after the meeting.

The President: Make them available afterwards. I think we have thrashed this horse enough: it is now dead.

Mr. Haynes: Mr. McMorran has referred to statutory registration. A recognised school student does not have to join the Royal Institute. He can, on the completion of his five-year course at one of the recognised schools go on the Register by paying his guinea for admission to the Register, and whatever is the current retention fee. There is no compulsion in connection with the Register to pay a fee of 20 guineas.

Mr. Leonard Howitt: The R.I.B.A. is not a monopoly. One can become a registered architect by virtue of having a degree.

Mr. G. Whitby: I should like the Council to consider a life membership for some of our older and poorer, but not necessarily distinguished, members. This is an idea which, I believe, is current in Australia. I was looking at a recent journal of the R.A.I.A., and in it was a description of the presentation of life membership to a man who had been a member for 50 years. It is the sort of thing this Institute could well afford to do in its present affluent state. Now we are revising the By-laws I believe there is an opportunity of so doing.

The President: There is a great deal of sympathy for old members. All I can say is that we will take note and discuss it.

The Secretary: It is not possible under the existing By-laws.

Mr. I. T. M. Davis [4]: Is there any possibility of repeating the type of exhibition held recently and also charging for it? I notice no charge was made, but I feel sure people would have paid willingly. Is there any practical objection to having this type of exhibition at fairly frequent intervals and levelling the requisite charge?

The Secretary: I think there are two points. First, if you charge for admission you may run into difficulties with the rating authorities. We at present benefit from a comparatively low rate of assessment. Secondly, it has always been the view of the Council that members ought not to be charged for entering their own building.

Mr. Davis: In that case, would not it be possible for the R.I.B.A. to produce catalogues and charge accordingly?

The Secretary: We do try to sell catalogues now, but we do not charge for admission.

The remaining pages were taken as read.

The President: We have had our discussion and I will now ask you to vote on the Resolution as follows:

'That the Report of the Council and Committees for the year 1958 be received.'

The Resolution was carried.

The President: The list of attendances at the meetings of the Council will be issued with the Voting Paper.

I have great pleasure in moving that a hearty vote of thanks be accorded to Mr. John Ratcliff, O.B.E. [F], and Mr. David Waterhouse [A] for their services as Honorary Auditors for the past year.

The motion was carried by acclamation.

The President: Mr. John Ratcliff, O.B.E. [F], and Mr. David Waterhouse [A] are both eligible and willing to be renominated as Honorary Auditors for the current year, and if it is your pleasure I beg to move that they be so nominated.

The motion was carried.

The President: Before we conclude the business of this meeting, I should like to present to you officially at this Annual General Meeting Bill Spragg's successor, Mr. Gordon Ricketts, who takes up his job and will be sitting here at the next Annual General Meeting. I am sure that you would like to show your appreciation of Mr. Spragg's diligence and hard work, and also to save time to welcome Mr. Gordon Ricketts to this position as Secretary to the Royal Institute. (Applause.)

The Secretary (Mr. C. D. Spragg): I thank the President for his extremely kind remarks about my services to the R.I.B.A. and thank you very much for my share of the applause. It has been my life work to be here and I have enjoyed, I would not say every minute of it, but a great part of it, and I have made a host of very good friends. I shall leave this job with very mixed feelings, but I am absolutely assured that in Gordon Ricketts you will have a jolly good Secretary. It only remains for me to wish him the best of luck and not too many stormy annual general meetings.

Mr. Gordon Ricketts: Thank you very much for your kind introduction and for your most kind welcome and good wishes. It will be a tremendous pleasure and privilege to attempt to fill Bill Spragg's shoes.

The President: That concludes the business of the Meeting.





BRITISH ARCHITECTS' CONFERENCE, CARDIFF 10-13 JUNE

Efficiency and the Architect

by A. G. Sheppard Fidler, M.A., B.Arch., A.M.T.P.I. [F]

Introduction

The theme of this Conference is one which has the widest implications for all members of our profession. The practice of architecture has, over the years, changed radically to meet the vastly changed circumstances of world economics and progress in science and technology. It will be true to say that it is now a social service, very much of and for the people rather than an art catering for an aristocratic minority. The scope of the architect's work is immeasurably increased as society requires new buildings to meet new demands, and as our complex civilisation advances.

We are living at a time when scientific knowledge is surging forward and society expects architects to adapt themselves to this technical approach to its activities. The community with its urgent needs and its rigid economy makes new and exacting demands on the architectural profession—measuring our success in terms of efficiency rather than aesthetics, and there is a real danger that the good architect, unless he is also the efficient architect, will fail to leave his mark on the contemporary scene.

The architect now operates in an essentially economic context, contracting to meet clearly defined needs and to spend vast sums in return for an agreed reward, whether fee or salary, like other professional men. (He must, of course, strive for grace and beauty too, for that is an important reason for employing him at all.)

Mostly the client is paying us to meet his specific needs, only rarely is he also providing patronage to enable us to express ourselves. The efficiency of the architect as a business man, spending his client's money wisely, is, therefore, a perfectly respectable subject for us to rate highly, and needs no apology; for the sooner it becomes universal for architects to care as much for their reputations with clients as for their reputations among those fellow architects who happen to share their aesthetic judgment, the better.

It is of the first importance that members of the architectural profession should gain the respect and confidence of members of the public by consistently meeting practical needs with the utmost efficiency: provide the clients with a building which functions well and is built within the agreed limits of time and price, and they will be much more likely to follow the architect in matters of taste.

It follows that if the architect is to be recognised and accepted without challenge as the leader of the building team, he must conduct his own practice with a full realisation that efficiency and productivity are not vague generalisations but real and

practical problems which need his urgent and continuing attention. Efficiency is concerned with the whole business of architectural practice, both private and official, and with many other matters not concerned with the direct running of an office, but which condition and influence the method of practice and the architect's part in the building industry as a whole.

The Conference papers include articles on 'Architectural Management' by W. Sinclair Gauldie and Arthur F. S. Wright, who have set out a method study they have evolved to suit their office and conditions of practice. They outline the problem by considering 'information' as it concerns the architect at the pre-contract stage: next, decision and drawings: the method by which the architect communicates his design to the client and builder. They finally deal with supervision and control. In their article the subject of office management is treated in considerable detail, but it is primarily the main principles which need discussion and elaboration at the Conference. Most offices have evolved their own office organisation, but as conditions constantly change, it is wise to review the means of office management used in practices of various size, and by discussion see whether reorganisation and change is needed in the interests of efficiency.

Good management is essential to the efficient working of a practice, official or private. It has been said that management cannot produce good architecture, but there is no doubt that it can help to create conditions in which good architecture can flourish. A good organisation, well administered, can give architects more time for their real job—the designing of buildings.

The Official Architect

The purpose of this short paper is to comment briefly on certain aspects of the subject 'Efficiency and the Architect' more especially from the official architect's point of view, in order to promote a useful discussion. In 1958, out of a total of £1,200 million worth of building work carried out in Great Britain, Government and local authorities were responsible for over £500 million. Official practices, therefore, are responsible for a large proportion of the country's building work and it is essential that the architect's part in this work should be carried out with the greatest possible degree of efficiency.

Official practice enjoys the advantage of having an assured programme of work and of operating within the framework of an authority in which financial and administrative methods are already organised. However, its flexibility must be limited by

the fact that it is a part of a very much larger organisation with established rules and procedures, as well as having to conform to staff establishments and national salary scales.

The continuing programmes of housing and schools have meant that official practices have secured considerable knowledge and experience in dealing with the specialist design problems involved. The larger authorities can effectively conduct user research to supplement official guidance received through Ministry handbooks and other agencies. This information greatly assists efficiency by reducing the research time needed in the early stages of the project.

Cost

The subjects of cost analysis and expenditure planning have received increased attention from architects and quantity surveyors during recent years, and it is not intended to discuss them in detail at this Conference. The need for cost planning is self-evident and the improved accuracy in tendering recently obtained, added to the practice of firm price tendering, should convince anyone that a finer knowledge of building costs is an essential part of successful practice. It is worth while making the point that, because of the wide scope and continuity of work in an official architect's office, it is possible for a comprehensive knowledge of costs to be built up within the office. Most official architects' offices have quantity surveyors on their own staff and this gives an opportunity of ideal integration of effort and pooling of ideas and effective work studies. A useful scheme of interchange of cost information is also operating between certain local authority offices.

Time

In an efficient practice, design time is carefully related to the required quality of design, and perhaps one of the most interesting points made by Messrs. Gauldie and Wright is that which concerns the determination of the 'calibre' of a job. If this is decided at the start it provides a most effective means of meeting the vital challenge on cost and time. It is important to complete work quickly as most clients are impatient to see building commence. Clients, and this includes Government Departments and local authorities, tend to under-estimate the amount of time required for efficient design work in an architect's office. Even when the whole reasons for the necessity for so much time is explained, there is a strong desire to press the architect to get a scheme ready in a considerably shorter time than that which the job really

requires. Many authorities are consequently attracted by the 'package deal' type of contract for certain classes of buildings, which, it is claimed, give much speedier results at less cost. This is a challenge which has to be met by the official as well as private architects. How can the design time be reduced? One method which has been effectively used since the war, for school building, is the use of a prefabricated system, and architects have shown great ingenuity in adapting these systems to suit varying conditions of site and educational requirements.

In the case of certain types of buildings, the use of type details on some considerable scale can be made. Basic specifications can also help to reduce this time factor.

All architects' offices should, as a matter of course, keep details of 'design hours' related to every job done, so as to be able to plan and programme their own work to meet the client's request for a firm date for the commencement of building operations.

Professional Fees

The question of professional fees is an important one in the official architect's office, no less than in that of a private architect, as an estimate of fees is required when a project is considered by committee. It is obvious that where a large number of specialist consultants are concerned, and paid fees according to the basic charges, it is possible for the level of professional fees to rise very steeply. In my view, very serious consideration should be given by the professions to the idea of the comprehensive design fee, and it is to be hoped that this will receive widespread support in the professions concerned with the building industry.

Although some official architects' departments include structural engineers, heating and ventilating engineers, and other specialist designers, a great many engage the services of consultants on projects of any size. When all the specialists are combined in one practice it is obviously a great advantage, as an efficiently integrated team can be built up, but such offices are the exception rather than the rule, as only the largest could support the right calibre of staff.

As far as architects' fees are concerned, many architects feel that the basic charge of 6 per cent needs reconsideration. In passing, it is worth noting that the American system in which the percentage of fees varies with the type of project (so that fees are related more closely and equitably to the design time) receives much support and is now being considered by the Practice Committee.

Consultants and Specialist Sub-Contractors

As stated above, if the design process of a complicated building involves the client in payment of fees to architects, quantity surveyors, structural consultants, heating, lighting and ventilating consultants, landscape consultants and others, it is possible

for a very substantial professional fee to be incurred. In private practice this full service is only occasionally followed, as I believe it is common practice to request a 'scheme' from a selected specialist sub-contractor or supplier, e.g. for structural frame, heating, etc., without competition. Such a practice is contrary to the spirit of the Standing Orders of most local authorities. In the public interest it is advisable, as far as possible, for all sections of the building work to be tendered for on a competitive basis, and this means that everything should be designed and specified. Obviously, in order to design at all, it is necessary for a number of structural and other decisions to be taken in advance of tendering, and in these cases the official architect can explain the situation to his Committee and agree exceptions to Standing Orders. As building becomes more and more complicated, most local authorities have evolved a satisfactory method of procedure to cover this and other difficulties which might follow strict conformity with their own Standing Orders. As far as possible, however, competition is encouraged, not only in order to secure the best value for money, but also to avoid the possibility of undue favour towards one firm. Certainly, the nomination of sub-contractors and suppliers can be carried to excess and I have recently been concerned with a contract in which the provisional sums and P.C.'s amounted to 75 per cent of the total. A completely opposite procedure is recommended in the recent report of the Royal Institute of Public Administration on 'Building Contracts of Local Authorities'.

The relevant recommendations are:—

The architect should

- (a) finish the detailed planning, even of particular items, before the contract is let and thus avoid including provisional sums in the contract (as far as practicable)
- (b) Reduce prime cost items to a minimum
- (c) Avoid using the system of prime cost items to postpone full planning; which in effect makes such prime cost items into provisional sums.

Contracts and Contractors

Although most local authorities use the 'R.I.B.A. Form of Contract Specially Adapted for the Use of Local Authorities', some local authorities still use their own forms. It is very much to be hoped that when the new Form of Contract is produced by the Joint Contracts Tribunal, on which local authorities are now represented, the use of the new form will become universal. This would be the greatest benefit both to official architects and to the contractors who work with them. Uniformity of contract conditions could save a great deal of time and misunderstanding.

Some local authorities are still reluctant to accept the recommendations of the Joint

Committee on Tendering Procedure, which advocated selective tendering, although experience has adequately shown that this is the only reasonable way of securing good building for projects of any size. Fortunately, the practice of using selected lists is increasing as its undoubted benefits become more apparent. Government Departments and local authorities are, however, willing to negotiate tenders for experimental work, to secure continuity of programmed work in certain circumstances, and for other special reasons. Perhaps I may raise again here the question of grading of contractors, since this would avoid the greatest difficulties that have occurred when small and inadequate firms have secured a large and important contract. From the point of view of architectural practice, such grading would be of enormous benefit.

Ministry Programming and Financial Control

One of the greatest brakes on efficiency in official architects' offices has been the financial system of annual budgeting by Government Departments. Architects have made many representations that a year is too short a period in which to design a building and prepare a contract. The Ministry of Education have taken the lead in agreeing to formulate a programme of works covering two years, and it is to be hoped that other Ministries will follow this excellent example and make known their financial allocations sufficiently well in advance so that realistic timetables of work may be arranged. This is even more important now that firm price tenders are required. The architect needs to plan ahead and we must press Government Departments to enable us to do so.

One unfortunate result of financial control based on annual budgets, is the splitting of projects into sections or phases. On very large projects the need for this is understood, but for medium sized contracts the practice creates uneconomic working and greatly increases the difficulties of design and supervision. Annual financial allocations have also produced the sudden request for architects to start work by a certain date, usually only two or three months away. It is extremely unlikely that any building can be started within such a short period, unless the complete scheme has remained 'on ice' during the previous months—otherwise the building starts with inadequate preparation and is followed by inevitable disorganisation due to lack of information. Architects will know from bitter experience that a building kept 'on ice' is out of date, especially as far as costs are concerned, in a very short time, and when the tenders are received they are likely to be higher than the approved estimates.

These are some of the things which affect official practice as I see it. Other offices provide other problems, and I hope that a frank discussion will stimulate ideas to lead to some satisfactory solutions.

Efficiency in Architects' Offices

by Alick Low [F]

SHEPPARD FIDLER has introduced the theme of this Conference. In doing so he has made some pungent comments on the problems of office efficiency from the official architect's point of view. My task is to comment on the subject from the standpoint of a private architect—particularly a large private office.

As Mr. Fidler has said—conditions under which architects practise are always changing. We should therefore be constantly assessing the effects of these changes on our practices to see whether we are equipped to meet them. At fairly regular intervals we architects take a good look at our office procedure, and we are at the moment in the middle of one of these exercises. Whenever this happens we improve our organisations in detail. The results often find their way into the Technical Press; sometimes a working party produces a report telling us how much better it is done in America; the information book of Sir John Burnet, Tait and Lorne was a milestone in office administration; the American Institute of Architects publishes a handbook on office administration which every architect should read.

The scope of these surveys has been expanded with the years and recently we have become acutely conscious of, for example, our inefficiency at estimating building cost; our somewhat casual approach to job costing and earning in our own offices; and also the need of a new look for architectural education. We are still discussing how best to assess our architectural problems; how to collect information to solve them; the size of the paper on which we draw our solutions; and whether to use microfilms to record our efforts. At the same time we are developing methods of estimating the time it takes to do these things and therefore the cost.

In some offices, both official and private, these processes are well established, and as soon as our architectural schools recognise the need for teaching methods of administration and also creating interest in this subject amongst the students, efficient offices will become commonplace.

In spite of this attention to detail, however, it is noticeable that our efficiency is not always appreciated by the client. There is still not the degree of confidence given to the architect as in other professions. On the other hand, we are constantly being told to be more firm with our client and to make him understand that he cannot dictate the architectural style and that changes of mind are expensive.

One result of this is that many large jobs today are given directly to contractors by the client, because there is a feeling that they are the most efficient section of the building industry. This is a point of view we should analyse more closely, because it might give us a clue to the causes of some of our shortcomings. In other words, it

might be useful to know just how much of building design can be, and sometimes is, done by the contractors. (Design meaning the design or selection of all the parts of a building.)

Structural engineering, which covers all the framework, floors, roof, foundations and stairs, can be done by a steel design and supply firm. Contractors are willing and able to design the electrical, heating, ventilating and sanitary engineering and advise on specialist equipment. A joinery firm could be asked to cope with the fixtures and doors, a roofing specialist the roof covering, and other specialists for the cladding and flooring. It only remains to have a well-known furniture and decorating contractor to prepare the schemes for all the major rooms, and the job is done, mostly by contractors, but of course with help from the quantity surveyor who is trained to fill in the remaining bits from sketch plans.

It seems that we are in danger of thinking of efficiency too much for our own benefit rather than the client's, whereas it is possible that our efficiency difficulties are due to some basic fault in our understanding of the job we are trying to do for the client. For example, we cannot administer the job properly and produce good architecture unless we control the various organisations which make up the design team.

In the world of private practice a hundred years ago architecture was a matter of masonry, wood, tiles and plaster and some plumbing. One building construction book and a few structural rules of thumb made up the architect's technical knowledge. With these and some scholarship, the great masters of the time created their works of art. The whole of this type of building could be measured, but this part of the work did not seem to appeal to the architect, and so either the builder or a quantity surveyor prepared a bill.

Following this came scientific advances in building; those of heating, ventilating, electrical power, structural engineering, and experts set up their own independent offices to advise architects on the more baffling parts of their job. Although all these are strictly building design problems, the architect did not recognise them as part of his responsibility.

Each of these specialists is now firmly established in the practice of designing in a field only vaguely familiar to the architect. Their office methods are different from ours, and in addition they are trained and prefer to prepare their own schedules and bills. As their share of the work increases, the value of the measured work decreases, and one can imagine that the measured part of building could in time disappear entirely. Even today, provisional sums and P.C.'s often amount to 60 per

cent of the total cost of a job on which fees are charged.

This ever-decreasing responsibility of the architect reduces his overall control of a job and the integration of the various designs becomes more difficult as the several specialist offices adopt their own way of working. Few specialist schemes are completed in detail before the sub-contracts are let, mainly because the sub-contractor himself produces details for the specialist to check, often after the building has already started. Therefore the constant prodding which the architect receives to complete everything before letting a contract, as we are told they do in America, has little effect because much of the detailing is outside his control.

This lack of central design control has had certain very important results. One of these is the establishment of complete design teams by contractors, and hence the package deal. This seems to have been done in self-defence rather than from a thirst for power. Another consequence, not so obvious, is the desire on the part of some architects to establish themselves by selling a new fashion. Being ill-equipped technically for doing original work, they re-arrange old pieces to form a succession of modern styles.

However, the most important effect of the private architect's loss of responsibility is the growth of the official architects' office and the offices attached to large industrial undertakings. We must recognise that both these have great advantages over the private practitioner. They have continuity of work often of a similar kind, which makes research both sensible and economic. Financial and administrative methods have already been established as part of the parent organisation. But above all, these offices usually combine the various specialist designers under one roof and design responsibility is not divided. These advantages are all important, and the results can be seen in some of the excellent work done by this type of office since the war.

It seems, therefore, that we should retrace our steps back over the last 100 years and gather together again the responsibilities we have let go by default. But it will be a very difficult thing to do, as our specialist friends are settled in their ways and might not see the advantage of going into partnership with us; because this is what it should have been—a partnership of all the specialist designers needed to create a modern building.

Until we recognise the scope of our responsibility, it will be difficult to decide what we are going to be efficient about.

This, of course, brings up the question of the size of an architect's office, but it is clear that the complicated design problem does not occur in the office largely engaged on domestic work. Today, however, a vast amount of very complicated work has to be designed both large and small, and it is this work that needs the attention of a comprehensive design team. This aspect does affect the size of the office and therefore the amount of regular work it requires to survive.

A complete design partnership could undertake research of real significance which, although costly, would at least be available to back up their architectural ideas with sound reasoning. This team, working to the standards of good office administration already considered in such

detail, might offer a service which would increase the chances of continuity of work. Without this security the private architect's job can become a problem of staffing, financing and job-getting with little time left for architecture.

Briefly, the purpose of this paper is to

query the basis on which the efficiency of an architect's office is organised, and to say that if our offices are not capable or prepared to take complete design responsibility, they will not in the long run be entrusted with a continuous supply of work; or produce good architecture.

A Survey of Private Architectural Practice—II

THIS SECOND ARTICLE continues the survey of private architectural practice that was started in the April issue of the JOURNAL (page 201). It contains information about (a) the number of practices of different sizes in each of the twelve regions into which Great Britain is divided (by the Ministry of Works); (b) the volume of building work certified by private architects in each region, and the average value of work certified a head of architectural staff; and (c) the value and proportion of different kinds of building work certified by private architects for public and private clients respectively.

The article contains many more statistics than the first one, and anyone who dislikes figures would be well advised to read no further! For those who enjoy playing with figures, however—perhaps to compare the amount of work certified by their firm with the average for the region in which they work—this article may be a useful extension of the first.

Readers are asked to bear in mind that the statistics given in the various tables are in nearly all cases approximations or estimates that give a picture of activity in

general terms only. They are derived from a 1958 sample inquiry, in which one firm of private architects in six (70 per cent of those approached) co-operated, a 1957 survey of R.I.B.A. members to which the response was less than 50 per cent, and an analysis of about two-thirds of all private practices for which details of staff were collected in the membership survey. All these surveys are subject to a margin of error, and it is by no means easy to reconcile their results. The results of the income survey carried out in 1958 in conjunction with the Royal Commission on Doctors' and Dentists' Remuneration are still awaited. No one hopes more sincerely than your statistician that, because of the good response, these results will provide a more reliable basis to work from and not make 'confusion worse confounded'.

Having successfully put off those few members who actually open their JOURNAL, it is perhaps safe to proceed.

Regional analysis of private practice

Tables 1 and 2 give details of private practice analysed by the 12 regions defined

by the Ministry of Works. Table 1 shows how many firms of different sizes there were in each region, Table 2 shows the value of building work certified by private architects in each region and the average value of work certified a head of architectural staff, together with figures of the average employment a firm (which gives an indication of the regional variations in size of firm) and the number of architectural staff for every 10,000 of population (indicating the relative density of staff in relation to the population they serve). 'Architectural staff' include principals or partners, assistant architects and architectural assistants (unqualified).

Any regional analysis of private practice is dominated by the London and Middlesex area, which contained 32 per cent of the total number of practices, 39 per cent of the architectural staff, and was responsible for 39 per cent of the building work certified by private architects in the three years 1955/56/57. This region contained a pre-dominance of the country's larger practices—48 per cent or nearly half of those with more than ten architectural staff. These

Table 1. Regional analysis of private practice by size of firm, 1957-58

Region	Firms with 1-5 architectural staff (a)		Firms with 6-10 architectural staff (a)		Firms with 11 or more architectural staff (a)		All firms	
	Number of firms	Proportion of total	Number of firms	Proportion of total	Number of firms	Proportion of total	Number of firms	Proportion of total
London and Middlesex	No. 677	per cent 30.6	No. 135	per cent 28.0	No. 137	per cent 48.0	No. 949	per cent 31.8
Southern Counties								
Southern	158	7.1	32	6.6	7	2.5	197	6.6
South Western	165	7.4	36	7.5	13	4.6	214	7.2
South Eastern	157	7.1	19	3.9	7	2.5	183	6.1
Eastern	144	6.5	19	3.9	12	4.2	175	5.9
Midland Counties								
Midland	151	6.8	34	7.0	24	8.4	209	7.0
North Midland	112	5.0	27	5.6	12	4.2	151	5.1
Northern Counties								
Northern	76	3.4	23	4.8	6	2.1	105	3.5
North Eastern	132	6.0	35	7.3	16	5.6	183	6.1
North Western	204	9.2	48	9.9	25	8.8	277	9.3
Total, England	1,976	89.1	408	84.5	259	90.9	2,643	88.6
Scotland and Wales (b)	242	10.9	75	15.5	26	9.1	343	11.4
Total, Great Britain	2,218	100.0	483	100.0	285	100.0	2,986	100.0

(a) The term 'architectural staff' is used to cover principals or partners, assistant architects and architectural assistants (unqualified).

(b) Because of the small number of large firms in Wales, it has been necessary to combine the figures for that country with those of Scotland to, avoid disclosing information about individual firms.

larger practices contained a relatively high proportion of qualified assistants: on average for every one principal or partner there were approximately three qualified assistants and three unqualified assistants. The larger practices in other parts of England had on average between one and two qualified assistants and between two and three unqualified assistants for every principal.

The average value of work certified a head of architectural staff in 1957 for all firms in the London and Middlesex area was £30,000, slightly above the average for Great Britain, but by no means the highest of the regions. The Eastern, Midland, North Western and Northern regions showed averages of between £32,000 and £34,000. These regions had a relatively low proportion of architectural staff in relation to the population served. The Midland and North Western regions also had a relatively high proportion of larger firms, which may be a factor contributing to a higher output a head. And the Northern counties as a whole relied more than other parts of England on qualified rather than unqualified staff.

At the other end of the scale were three regions in the Southern counties with a low value of work certified a head—South Western (£22,000), Southern (£23,000) and South Eastern (£25,000). These regions all had a high proportion of small firms. The first two had also a relatively high proportion of architectural staff in relation to the population served. And on the average there were more unqualified assistants in relation to architects in the Southern counties than in other parts of England.

Thus at first sight there appeared to be a

tendency for a high value of work certified a head to be found in regions with a high proportion of large firms, with relatively few architectural staff in relation to the population, and with a relatively high ratio of qualified to unqualified staff. And the converse. Not all regions followed this pattern, however. The North Midland region, for example, showed a lower-than-average value of work certified a head despite a fairly high proportion of larger firms and a relatively scarcity of architectural staff in relation to population.

There are all kinds of questions to which one would like answers about the factors that contribute to a high level of output a head. If it is related to size of firm, as the figures suggest, is there an optimum size or are there different levels of expansion, each of which may offer a particular benefit? What is the most economic ratio of principals to assistants, and of qualified to unqualified staff? How does the type of work handled by the office affect its level of output? What are the regional variations, for example, in the proportion of architects to population, in economic activity, even in climatic condition, that may be more conducive to higher output in one region than another?

Statistics of themselves will not provide all the answers, but as they are analysed in different ways, so they may provide a clue to further investigation, in which individual offices may be able to contribute their experience. It is hoped in the next or subsequent article to carry the statistical probe a stage further, and try to get a closer glimpse of the underlying relationships.

Work certified for public authorities

Private architects were responsible for the design and certification of just over one-fifth of the new building work done for public authorities in the three years 1955/56/57—an annual average of £116 million out of an estimated total of £552 million. Housing offered the biggest share of work—averaging £53 million a year or 46 per cent of the total, followed by educational buildings which averaged £33 million a year or 29 per cent of the total; health and other public buildings, and a small amount of industrial building, made up the remainder. The detailed figures are given in Table 3.

On the average, the work certified by private architects was split between public and private clients in the ratio of 30 per cent public to 70 per cent private. In 1955, the proportion certified for public authorities was higher (33 per cent) but in 1956 it fell to 29 per cent and then rose slightly to 30 per cent in 1957.

The private architects' share of educational building rose considerably over the three-year period. Published figures do not show separately the work done for public and private clients, but taking educational building as a whole, the proportion certified by private architects rose from 45 per cent in 1955 to 49 per cent in 1956 and 57 per cent in 1957. This was a period of rapid expansion in the educational building programmes, from which private architects would appear to have gained more than proportionately. The extent to which work is given to private architects by local authorities depends no doubt upon the rate of expansion required for a given programme as well as the pressure of other

Table 2. Regional distribution of building work certified by private architects

Region	Annual average value of building work certified 1955/56/57		Average value of work certified a head of architectural staff in 1957	Average employment a firm	Number of architectural staff for every 10,000 population
	£ million	per cent	£000	No.	No.
London and Middlesex	149	38.8	30	6.1	6.9
Southern Counties					
Southern	15	3.9	23	3.8	2.7
South Western	18	4.7	22	4.1	2.8
South Eastern	13	3.4	25	2.8	1.9
Eastern	19	4.9	33	3.8	1.9
Midland Counties					
Midland	35	9.1	34	5.2	2.4
North Midland	17	4.4	28	4.6	1.9
Northern Counties					
Northern	12	3.1	32	4.1	1.5
North Eastern	22	5.8	25	5.1	2.3
North Western	40	10.4	34	4.5	1.9
Wales	(13) (a)	(3.4) (a)	* (a)	3.8	1.2
Total, England and Wales	353	91.9	30	4.9	3.0
Scotland	31	8.1	27	5.1	2.6
Total, Great Britain	384	100.0	29	4.9	2.9

(a) The figures for work certified in Wales are less reliable than others because of the smallness of the sample; no figure is therefore shown for work certified a head of architectural staff.

Table 3. Estimated value of new building work for public and private clients certified by private architects
(Annual average for 1955/56/57 of work in Great Britain)

Kind of building work	FOR PUBLIC AUTHORITIES (a)			FOR PRIVATE OWNERS AND DEVELOPERS			TOTAL FOR PUBLIC AND PRIVATE CLIENTS		
	Total value of work done (b)	Value	as a proportion of the total	Total value of work done (b)	Value	as a proportion of the total	Total value of work done (b)	Value	as a proportion of the total
	£ million	£ million	per cent	£ million	£ million	per cent	£ million	£ million	per cent
<i>Housing</i>	375	53	14	235	57	24	610	110	18
<i>Non-housing</i>									
Industrial	60	7	12	227	86	38	287	93	32
Farm .. .. .	..	33	..	..	2	..	27	2	7
Education .. .. .	..	..	..	..	12	..	87 (c)	45	52
Health .. .. .	..	9	..	..	2	..	13	11	85
Commercial and other buildings	..	14	..	..	109	..	136	123	90
<i>Total, non-housing</i>	177	63	36	373	211	56	550	274	50
<i>Total, all kinds of buildings</i> ..	552	116	21	608	268	44	1,160	384	33

(a) Public authorities are defined as government departments, local authorities, public utilities, nationalised industries, housing associations and new town corporations.

(b) The figures given above of the total value of work done are unofficial estimates made of the value of new building work excluding civil engineering work in Great Britain. They represent an estimate of the value of work that should come within the province of the architect. The starting point for the estimates are the Ministry of Works' figures of building output and the figures in the Blue Book on National Income and Expenditure of gross fixed capital formation on buildings and works.

(c) Includes buildings for child care as well as education.

.. means that the figures are not available.

work in the authorities' own architects' departments.

Work certified for private clients

Private architects were responsible for the design and supervision of about 44 per cent of the total amount of new building work carried out for private owners and developers in the three years 1955/56/57—an annual average of £268 million out of an estimated total of £608 million. Commercial building was the most important, accounting for over £100 million or 40 per cent of the total, followed by industrial building at £86 million or 32 per cent, with housing in third place at £57 million or 21 per cent of the total; small amounts of educational, health and farm buildings made up the remainder.

As was pointed out in the first article, the figure in Table 3 for private housing certified by private architects, amounting to 24 per cent or one quarter of the total volume of private housing, does not represent the total amount of housing work for which private architects were responsible. It excludes a considerable volume of work designed but not supervised by them, the extent of which is not known.

A very high proportion of private commercial building was designed and certified by private architects. It has been found necessary to revise the estimate of the total amount of commercial building carried out, and the latest figures suggest that the proportion for which private architects were responsible may be nearer 90 per cent than the 77 per cent quoted in the first article. In either case, there is only modest scope for extending the services of the architect in this field; the amount of work escaping the architect appears to lie between £10 million and £30 million a year.

The main field for expansion of the activities of the private architect appears to be in private industrial building, for which private architects were responsible for only 38 per cent of the total in the three years under review. The proportion remained stable during the three years despite the big increase in building work done in 1956 and 1957, compared with 1955, and there appears to have been no tendency to make a greater use of private architects to cope with the additional volume of work; private architects merely held their ground.

The important question for architects is—what needs to be done to bring a bigger share of industrial building work their way? Is it publicity directed specifically at the industrialist to show him the benefits to be gained by using an architect? Or is it greater specialisation on the part of the architect to give him a closer understanding of the needs of industry in terms of the latest manufacturing techniques? The JOURNAL would welcome comments and suggestions on this aspect.

* * *

REVIEW

Exhibition of Drawings

by R. L. Banks

THE TOPOGRAPHICAL DRAWINGS one usually expects from an architect rarely rise above the average as works of art. They are often ephemeral and rather pretty pieces. The drawings of Robert L. Banks shown for

the first time at the Leicester Galleries* can stand on their own as singular works of art marking him out as an artist with unusual propensities.

His theme is Italy, showing in the towns: streets and fountains, gardens and people; in the country being concerned most of all with the peasant's immediate and simple agrarian environment. Buildings are depicted with an understanding of form and sculptural quality where the 20th century rarely intrudes upon the scene; or when it is present not being significant or obvious. He shows that Rome can still be viewed as the city of the Grand Tour. Yet Banks is not an artist out of his time for he seems concerned to show that there can still exist a spirit of leisured observation. He rises to full stature outside the towns where, in the country, he captures the feeling of sun-drenched distance and the contrasts of white stucco with the recesses of deep shade. The scenes of peasant and farmyard chattels are mirrored with great understanding for their environment. The Casa Taglia Bracchi is a bouquet of ladders, agricultural implements, crumbling walls and grass, or a view of a back yard draws one into the garden and through a vine pergola to the hay ricks motionless in the fields beyond.

The drawings are all in the same medium of yellow ochre or bistre wash which in the mass perhaps tends to monotony. There is the feeling that the artist has become fully conversant with this medium in order to record his impressions with a sureness and quickness. This in itself must lead to a cul-de-sac but prompts one to look forward to future exhibitions of Banks's drawings in other mediums.

J. H.

* From 4 June 1959.

Report of a Discussion on Hostels, Hotels and Motels

Held at the R.I.B.A. on 17 March, Mr. Richard Sheppard, Honorary Secretary in the Chair

Taking part in the discussion were:—

MR. PETER BESSELL, a hotel promoter and property broker.

MR. ERIC D. CROFT, Director and Secretary of the British Hotels and Restaurants Association.

MR. LOUIS ERDI [F], an architect specialising in hotel and motel design.

MR. L. A. LICKORISH, Deputy Director-General of the British Travel and Holidays Association.

MR. P. E. ROSSETTI, Senior Planning Officer, Canada, South America, and Western Routes, B.O.A.C.

PROFESSOR S. R. SPARKES, Head of the Department of Civil Engineering at Imperial College, University of London.

MR. BRYAN WESTWOOD [F], Chairman of the Information Sub-Committee of the R.I.B.A. Science Committee.

As Mr. Bryan Westwood explained in his introduction there is a growing discussion on the merits and present-day use of hostels, hotels and motels. It is argued that there is a shortage of hotel accommodation, this view is held for instance by B.O.A.C. and the British Travel and Holidays Association but is opposed by the British Hotels and Restaurants Association. Nevertheless it is true that few hotels have been built since the war and the habits of the travelling public have so changed that pre-war hotels may no longer meet today's requirements. Mr. Rossetti maintained that there was not only a severe shortage but the position would get much worse in the future if no action were planned now.

The cost of hotels was also the subject of some controversy; there was considerable divergence in the figures quoted. Further analysis of costs on a comparable basis is obviously required.

Further thought is also needed on the changing use of the three types of building. There does not appear to be any authoritative study of 'user requirements', and this together with comparative costs is urgently needed. The talk received considerable attention in the Press and on the wireless and since it was given requests have been received for further discussions. The Science Committee are considering how best to pursue the subject.

The following is a short summary of the proceedings.

The Chairman: We have here a panel of experts on this subject who will answer the questions which we put to them. I call on Mr. Bryan Westwood to outline the object of this meeting. Mr. Westwood is Chairman of the Information Sub-Committee of the Science Committee, who have been responsible for organising this meeting.

Mr. Bryan Westwood [F]: The members of the panel are experts; I am not. My remarks will be made as a layman, and are intended to cover the whole scope of the discussion, but in no way should be considered as the last word on the subject.

In general terms it may be said that the habits of the travelling public have changed and there are new requirements. What are these new requirements? How are they being met?

Air travel has hastened the process of making standards international. Travellers can pick and choose and go to the country which provides these standards. When it is realised that B.O.A.C. alone can bring in more visitors during the holiday period than can be accommodated to their liking in London, there is in the national interest a note of urgency in our discussion.

Looking broadly at the requirements for accommodation of various kinds, I shall try to put into categories the different types of potential users.

1. The increasing number of university students has produced a demand for new building, and there is concurrently dissatisfaction with existing standards. Here, I think, one cannot over-emphasise the importance of the arrangement and fitting out of the basic unit, the student's room. This must not be allowed to suffer for the benefit of lavish treatment of the exterior or the larger

spaces, as it has tended to be in the past. Financially, such building has the handicap that it is unoccupied for one-third of the year.

2. There are also students of a different kind, those who attend the 500 conferences which, I am told, take place in this country every year. The participants in many of these have not very exacting demands, but they want reasonable quietness and space to spread their books and papers.

3. In speaking of new kinds of accommodation, we must not forget the demand by the more leisurely traveller as well as the business man for room in the normal hotel. There is also the need to develop the hotel as a centre for all kinds of local activities, with a good hall not only for dancing but for projecting slides and for club meetings. Improved transport, presumably, is the main factor which has fostered the increase of activities of this kind. In the suburbs at any rate it is not easy to find suitable halls for club functions of any size. On the contrary, in some new hotels, presumably for financial reasons, there is a tendency to provide primarily sleeping accommodation, with very small public rooms; but these are in large cities, where these facilities are available elsewhere. One reason for this development is that many visitors prefer to have breakfast brought to their rooms and to take other meals elsewhere.

4. The motorist *en route* from A to B wants a simple, comfortable place to sleep. It need not be in town, many prefer the country where it is comparatively quiet. He wants to be able to arrive and depart at times suitable to his business and to be able to have snack meals at any time. He wants to be near

his car so that his luggage is accessible without having to be taken *en masse* from the car. While he wants good washing facilities and a comfortable bed, the spaciousness, the necessarily slow service and the expensive meals of the normal hotel are all out of place.

Such in brief are the requirements. I have not touched on youth hostels and things of that kind, because I believe that the needs in this direction are met fairly adequately. So far as the other requirements are concerned, what should be done? What are the possible solutions?

Hostels. There seems to be a strong case for making some of the university hostels into dual-purpose buildings. The vacation periods coincide with times of heavy pressure for rooms for travellers of various kinds and the building has thus the possibility of being fully used throughout the year. That such buildings are practical propositions has been brilliantly demonstrated by the Egmont Hotel in Copenhagen.

Hotels. Here I think that architects with imagination could perform a real public service, by refusing to accept at their face value the conventional forms of any of the parts of the normal hotel. If ever there were a useful opening for a competition it is here. Somehow, the ponderousness of the usual hotel must be got rid of, and something closer to the needs of travellers of today and of the staff who look after them must be evolved. Each part of the process of living in a hotel should be looked at afresh, from drawing up at the door, getting the luggage in and disposing of the car, to getting a cup of coffee and a sandwich really quickly, even if this means slot machines.

Motels. The requirements of the motorist, which I outlined earlier, prove the case, I think, for quite a different kind of hotel, which has been called a 'motel'. In essence, the motel seems to consist of a number of rooms units, grouped closely together but arranged in such a way that occupants coming and going at different times disturb each other as little as possible in doing so. With these units there should be a central building containing reception office and light refreshment room. To sum up:

- (a) It is suggested that there is a strong case for the dual-purpose hostel-hotel.
- (b) The hotel is as necessary now as ever, but it needs a new look. It should be developed to become more firmly the centre of local activities.
- (c) With the change in habits of the travelling public, the motel is a logical development. It should be developed to fulfil its particular role and not to take the urban hotel out into the countryside.

I now leave the subject to the experts.

Mr. L. A. Lickorish: The British Travel and Holidays Association is the national tourist board. Our job is to attract visitors from all parts of the world to this country, to come to see us, spend their money here, and go back imbued with our ideas and ready to promote our trade. We are also responsible for encouraging our own people to travel in this country and for assisting in every possible way the development of the travel trade in all its aspects—transport, hotel accommodation, resorts and resort equipment.

I think, and my Association think, that we are living in a period of revolution in travel which is quite as vast as the revolution in travel and social life which flowed from the development of the railways. The hotels which we know today are largely Victorian and Edwardian buildings which were invented by the railways.

As one example of the problem, look at our resorts; let me give some figures. About 27 million people in this country take holidays annually and are potential customers of the holiday area hotels and holiday accommodation generally. Only 15 per cent stay in hotels; the remainder go to caravan sites or holiday camps or rent bungalows, apartments and so on. In addition, there are at least as many people who take trips away from home for business or personal reasons. A large proportion of those who go for personal reasons do not stay in hotels but with relatives, but business men are very good customers for the first-class hotels. In addition, and most important economically, there is the overseas tourist traffic, which has now risen to 1,250,000 people, as compared with about 500,000 before the war. All these figures—though I cannot speak with certainty about those who travel for personal reasons—have doubled or trebled since pre-war days.

It should be added that all technical developments in newspapers, broadcasting and television are bringing the population

of our country and that of neighbouring countries closer together, so that they feel that they care more about what is going on in countries other than their own, and are reminded that other people exist in the world. They become more curious, and, with larger incomes, curiosity leads to more being spent on travel. The urge for moving about has always come first. The Prince Regent went to Brighton before Brighton was a holiday resort, and Beau Nash was Bath's first publicity officer. People will travel, and they will always find their own places to stay if others do not provide the amenities that they want. They have done so with caravans, for instance.

Mr. Eric D. Croft: I disagree fundamentally with Mr. Lickorish. The railways did not set up the hotels in this country. There were stage-coaches and turnpike roads and hotels to serve them long before the railways came, and the industry has only just got rid of an Act dealing with highwaymen. The hotel goes back long before the railway era, and to base the discussion on the development of the railway hotel would be misleading.

The Chairman: Am I right in thinking that the big increase has been in the lower income groups and that they require a different kind of accommodation from that provided by the 'Grand Hotel' and hotels of the 'railway type' generally?

Mr. Lickorish: Yes. There are two main groups of travellers. First, there are the business men on an expense account, who want first-class hotel facilities. Secondly—there are many divisions within this group—there are those who want cheaper facilities.

Mr. Croft: I would like to refer to a question which is very frequently raised, the shortage of hotel accommodation. Let us face this matter fairly. What do we mean by a shortage of accommodation, and when is there this shortage? Is there a shortage of holiday camp accommodation in December? There is always a shortage of anything at the time of peak demand. We must appreciate the position of the hotel industry. I have come to the conclusion that the most useless thing in the world is an hotel bedroom which has not been let.

We have been so concerned about this allegation that we have had a completely independent inquiry carried out by a leading firm of chartered accountants. Their figures show that there were only 26 nights in the year 1958 on which the hotel accommodation in London could be said to be fully booked. On every other night some rooms were available, though people may sometimes have had some trouble in finding them. On only 123 nights were there less than 4,000 beds shown as vacant, and over 100 of these nights were in the months June to October. Let us take this night last year; on 17 March 1958 there were 4,000 empty, which is about 20 per cent of the capacity of the industry.

At the week-end of Derby week there were 225 single rooms with private bathrooms available in London.

The Chairman: You have put your argument very well from the producer's point of view, but it is an irritating argument to the consumer.

Mr. Lickorish: Mr. Croft has rightly pointed out that there is a very great seasonal problem, and a problem of economics, finance and taxation, but much of what he has said is a complaint that the hotel industry cannot sell its total output. Those who use hotels, however, may justly ask whether or not the product is worth buying to the extent of 100 per cent, which means queueing up outside every hotel. If there is to be a rising volume of demand there will have to be some radical changes.

I think that we need big communication centres, which will be what the planners called mixed development, probably in the centre of the city, with bedrooms allied perhaps with assembly rooms, perhaps with restaurants, perhaps with transport termini, or perhaps with shops in one large block.

There is no reason why accommodation should not be part of allied communication developments and produced in very big units. We have a fairly old-fashioned equipment structure of hotels. If we regard them as factories, they are old buildings. I do not say that they are bad or that the service is bad, but I wonder whether, if the hotel industry wants to go on providing the sort of service it gives now, it will be able to do so in five or ten years time.

The Chairman: I like enormously your idea of the communication centre. You have had a crack at Mr. Croft, and it is only fair that he should have the opportunity to say something in reply.

Mr. Croft: There have been few completely new hotels built in Britain since the war, but there have been very many extensions and additions and changes in standards in existing hotels, with the addition of private bathrooms and better facilities generally, and all that has been done by the hotel industry. It does not catch the headlines like the building of a new hotel, but people often do not realise what these changes cost. I had someone to see me last week from a big provincial city in which there is said to be a shortage of hotel accommodation. He has put in 60 additional bathrooms at a cost of £500 per bathroom, and that makes no allowance for the reduction in the number of letting rooms as a consequence; there may have been three large rooms converted to two, each with a private bathroom, which reduces the number of beds that can be let.

Mr. Louis Erdi [F]: These £500 bathrooms must be extraordinary. I am on very firm ground here, because we have done so many of these conversions, and we find

that the bathroom costs between £250 and £300, and that is for a good bathroom. There are, of course, buildings which are completely unsuitable for conversion, and the hotel in question may have presented a very difficult problem. Normally we find that the conversion of one room, if it is a simple room and simply furnished, with built-in furniture and décor and carpets and curtains, and loose furniture, costs between £650 and £700. The limit is about £1,000. Once it becomes more than £1,000 it is not worth doing. A £500 bathroom is out of all proportion, and I think that the hotel in question should never have been converted; it should have been pulled down.

On the question of cost, we have gone into that with architects, quantity surveyors, prefabricators, furniture manufacturers, and others and have produced figures, but the cost of a hotel is something like the cost of a car. There are hotel rooms which cost as little as £1,800 for everything, including the ground, while in other hotels the cost may be £8,000, £10,000 or even more. We have to have regard to the level of the hotel about which we are talking. I think it would be right to say that the hotel which we need most is one where the cost is about £2,500 to £3,000 per room, because that is the type of which we are really short. Such hotels could be built, if not in the best position in Bond Street, at least somewhere in London which is accessible. Such hotels might be financed by the Government, but I do not think that the Government would agree to that. I am sure, however, that private people, if the accounts were presented to them properly, would find that there was not a 5 per cent or 8 per cent but a very much greater margin, because in London the break-even figure is 66 to 68 per cent, and the hotels with which I deal, which are Victorian and Edwardian hotels, but which have been converted, are occupied up to 90 per cent over the whole year, and that leaves a very good margin.

The Chairman: Mr. Rossetti is the Senior Planning Officer for the Canada, South America and Western Routes of B.O.A.C., and I think that he can tell us something from the consumer angle.

Mr. P. E. Rossetti: I should first like to say why B.O.A.C. is interested in this problem. We cover a world-wide network, but we have confined our work in this respect to the North Atlantic, because we feel that the greatest return for our efforts and also the largest increase in travel will take place there. Who are these people who travel on the North Atlantic routes, and what do they want when they come to this country? Where do they go, and what do they expect to get?

They are mainly Americans. They belong mainly to the middle class and are very well off. We are particularly interested in the people who want a bathroom with their bedroom. They want a very good catering service and quick meals, so that they can get out and see the town. They also want a lift, and a telephone in their

bedroom. This discussion includes motels. They are not interested in motels. They want to come to the centre of the city and they want very good accommodation for a short period of time. Mr. Croft says that there is plenty of such accommodation available in London. I am sorry, but we differ from him.

We expect a tremendous increase in this travel, so that if there is a shortage now—and we have been assured by the agents in the United States that there is a shortage—there will be a very severe shortage indeed five years from now, because we expect travel across the North Atlantic to double in the next four or five years.

Mr. Peter Bessell: On the question of motels, my interests take me to the United States, where I do business. Motel development in the U.S.A., which started in the mid-1920s, was first of all a sort of transit camp between large centres of population brought about by the growing use of the motor-car. It was somewhere where the motorist travelling 200 to 300 miles could put up for the night and then continue his journey. The likelihood of a development of that sort in this country is fairly remote, because there are no longer any long distances; the distances were never very great, and modern transport has made them very much shorter.

The possibility of motel development in this country in the way it has later taken place in the United States is, however, quite real, namely, as adjuncts to sea-side towns and other resorts. They are places to which holiday-makers and others can bring their car, park it easily, spend one night or several and then move on somewhere else. I think that that sort of development may take place here.

One of the difficulties is that so many hotel groups who are anxious to develop new hotels are not anxious to invest any money themselves; they want the whole of the finance to be put up by other parties and the entire risk taken by other parties. That is one of the biggest difficulties with which those on my side of the business have to contend. In addition, there are still two big obstacles. One is that so far as the provinces are concerned one is tied almost entirely to the big industrial areas—Manchester, Birmingham, and so on—where there is a hotel shortage four days a week, but not at week-ends, and that makes development difficult. In London there is the difficulty of the off-season, but I am not convinced that this is as real as has been suggested tonight; I believe that there is a real demand for first-class accommodation all the year round, but it would detract considerably from the business being done by some of the older hotels in London, and that is one of the reasons for the opposition to new hotel development.

The other difficulty is that there are too many passengers in this business. There is a tendency for people who are financing hotels to seek a large developer's profit. A developer's profit may be all very well here and there, but it often means that it is almost impossible to find a lessee who is

prepared to pay for the cost of the building and the land in terms of rent—that is to say, a percentage each year—plus a developer's profit.

Professor S. R. Sparkes: The first point that I want to make about hostels is that it is extremely important that they should be designed for their purposes, and one of their purposes is to develop a sense of community in the people living there. That is just what you do not want to do in an hotel or motel. I do not think, therefore, that there should be any competition between hostels used for sleeping and eating and hotels or motels; they are quite different.

The peak season for visitors appears to come in July, or in the summer, and that happens to coincide with the long vacation; but I have been unable to ascertain what sort of accommodation is most sought after then, and I can only think that any accommodation at that time is going to relieve the situation. Whether people want cheap accommodation and have to pay for expensive accommodation or whether they want expensive accommodation and have to take cheap accommodation, the situation will be relieved if hostels can be used to provide some accommodation during the long vacation.

There is, I think, no fundamental objection to dual use, provided—and this is very important—that the hostel is designed in the first instance as an hotel, and then any additional facilities or finishes, if they are necessary to make it function as an hotel, are added afterwards.

Mr. Erdi: I should like to say a few words about hotel costs. It seems to me from this discussion, and from what I have read in the Press—even in the hotel Press, but mainly in the national Press—that there are some completely nebulous figures flying about in regard to hotel costs. We must look at a hotel enterprise in a very realistic way. The cost of an hotel is going to be the outcome of a balance sheet which accountants and the hotel operators and probably the restaurateurs in the hotel and the promoters will draw up in advance. In other words, it is not the architect who says 'This hotel will cost £4,500 per room' but the promoter who says 'This hotel must have a maximum cost of £2,500 per room, or else it will not be built'. Hoteliers should take a little more care in their calculations and study what is possible and what is not possible, and then pass on the problem to their accountant and architect and say 'Is it possible to do it for this price?' The architect will find a solution, if one is possible.

The Chairman: I have been asked to sum up this discussion. That is very difficult, because people do not use the same terms; but there are certain questions which have been left out. As a simple architect, I think in terms of cost and not of what the restaurant manager regards as profit. The fact cannot have escaped the notice of the audience that when we came to consider hotels and other places in which people

live, the cost of providing them seems to vary enormously with the length of time that people spend in them. The cheapest are those in which people stay for a long time, such as prisons. In fact, however, prisons are extremely expensive, and the cost of a new concrete wall round one of them would have provided several hotels in the London area, even though it was done in precast concrete. Then there are the schools and teachers' training colleges, and they have to be built and are built for a very much cheaper cost than any that has been quoted for hotels. A room in a teachers' training college, including all the social accommodation which goes with it, which is extensive, and kitchens which provide simple and not very appetising meals (from my observation), has to be provided for about £600. That is what the Ministry of Education lays down, and such colleges are being built and adequately decorated, and the beds have springs! There is not a telephone in every room, and the standard provision of washing and other accommodation is less than is required in an hotel; but I do not believe that the disparity in cost between a teachers' training college and an hotel has been explained tonight.

Then there are one or two new colleges which are being provided. There is one which will form an excellent object-lesson in the use of a motel, Churchill College at Cambridge, which is some miles out of Cambridge on a flat and rather disagreeable piece of land. The students will have to commute between the college and Cambridge, and it should provide a fine basis for a motel. The cost of that will be considerably more than the cost of most other colleges.

Going up the scale, there has been talk about the use of university halls of residence for hotels. In most cases the universities are badly sited for hotel use, but the University Grants Commission is remedying that by putting one at Brighton. The object is to provide Brighton landladies with off-season business, which is very good from their point of view, and, since we need another university, the two things seem to go together; but I can see no point in thinking of dual use in, say, Stoke-on-Trent, because even though tourists go to Manchester—God knows for what!—I cannot believe that they will go to Stoke-on-Trent. In all these cases the cost per room is about £800 to £1,000, which is weighted to provide social and dining accommodation for the students.

Coming to hotels, we have had prices quoted to us which include the cost of land—in all these cases we are not told the cost of the land—of between £2,000 and £6,000 per room. I cannot imagine how the cost can be so high. I feel that all sorts of other costs are being brought into the building cost. I cannot see how the costs quoted can be taken as authoritative, because they are unsupported statements and may have all kinds of other costs included in them. We need to know the net construction cost.

If the figures which we have been given by Mr. Croft are to be believed, it is

obvious that people are not going to build hotels. The hotel industry in this country tends to put itself into that position, because by quoting these high costs and saying it is impossible they put us in the position of looking for other methods, and that is why the motel and the communication centre have to be considered.

I think that the communication centre is a most interesting proposal to meet the needs of tourists and business travellers. That is a useful thought to carry away with us.

I have not summed up, but merely given you a few reflections on what we have heard. On your behalf I thank all the speakers.

Architecture and the Church

THE FOLLOWING STATEMENT was issued at the end of a conference called by the Ecumenical Institute of the World Council of Churches, held in Geneva from 6-12 May.

1. Our 20th-century material and scientific progress and discovery, our new ways of thought and living do not invalidate the ageless message of Christianity. The conditions of life today are calling the Church into the common life of man, away from the enclosed sanctuary, to witness in daily work. This may create new forms of Christian community life which will also lead to expression in buildings which represent, like other buildings of our time, the thinking of modern man. New buildings are often needed to consolidate this evangelistic work and to draw men together in Christian fellowship.

2. In earlier times the church building was one of the finest expressions of the age. This does not solve our problem. We have to face our task in our time to find a new expression of Christian life today through the buildings we make.

3. The serving and not the dominating role of the Church should be kept in mind. This can be expressed, not only in the building, but in the way in which it is related to the town plan. The church building should not be a venture in personal expression, an architectural *tour de force*, or merely a sensuously satisfying achievement.

4. The Church must take account of the needs of modern society, through the use of community centres, the house church and the chapel in industrial centres.

5. The selection of architects for the church need not be on the basis of formal membership in the Christian community nor prior experience with the Church's problems. Good architecture is the essential; and the best architects are men of imagination, energy and artistic integrity who may be willing to serve the Church as ably as they do other clients. Properly run archi-

tectural competitions help the churches in making the right choice. Since the Church must speak to the world as well as to itself, men who know the world as well as the Church are to be preferred to those who know only the Church.

6. A good church building is normally the finished work of a single designer. The congregation has the obligation to brief the architect fully. Throughout the briefing process the Church must leave the designer free to speak his mind and do his work. Good churches are never built by committees. Let the architect be the architect.

7. The architect should understand his client's need in all its aspects and endeavour to fulfil that need through the medium of the architecture he produces.

8. A dialogue must continue between Church and architect, and in this dialogue the Church should not insist on the right to make artistic decisions. The architect for his part must endeavour to serve the purpose of the Church.

9. The substance of this conversation is the work and life of the Church as a community with a mission and a living message for the modern world.

10. The place of worship should help the congregation to act corporately in the praise and service of God. Design must avoid distraction so as to focus the attention of all the worshippers on the worship and its expression through acts and symbols in the building. The fixing of the mind upon God is corporate and active. Scientific, theological and architectural studies of this problem should be conducted by the churches through bringing specialists together within the growing agreement on the nature of worship in the ecumenical movement.

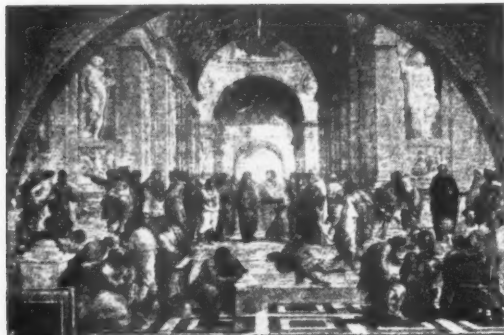
11. Fine art in the Church should not be understood as something additional or merely decorative, but as an organic part of the architecture arising from the work and worship of the church. The church must not be a museum of fine art or of archaeological relics. The highest standard of industrial design achieved in everyday life should be applied to the furnishings of the church, including all the minor arts such as printing, posters and fabrics.

12. Church authorities, theological students, building committees and congregations need to be educated in the meaning of contemporary architecture by literature, exhibitions, filmstrips and other means. Similarly, the churches must educate their architects.

13. The churches pray for the unity of the Church; let us work for it. If we prune away the habits and patterns which represent unessential differences between the churches, if we provide buildings which meet the purposes of the Christian community in today's world, we may find that in tomorrow's world we will indeed be a truer Christian community, broad enough to encompass the differences which should and will remain.

Comprehensive Redevelopment III—Planning Visions*

by P. E. A. Johnson-Marshall, Dipl.Arch.(L'pool), A.M.T.P.I. [A]



THE SCHOOL OF ATHENS by RAPHAEL. A Renaissance synthesis of ideals. The most famous classical philosophers are imagined in an ideal environment. This kind of vision was a powerful image for the architects and town planners of the time, just as the idealised landscape paintings of Claude and Poussin influenced the British landscape designers in a later period.

EARLY 17TH CENTURY. ITALIAN THEATRE STAGE SET by PARIGI. The Renaissance theatre gave designers a wonderful opportunity to create imaginary townscapes, and these provided a potent source of ideas for town design. Most of the great Renaissance urban set pieces were based on images taken from theatre sets or paintings. (Right)



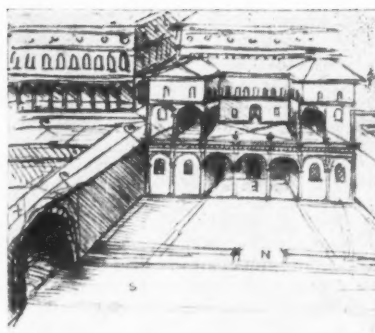
MULTI-LEVEL URBAN STUDIES by LEONARDO DA VINCI

These studies, coupled with Leonardo's thinking on a theoretical new town and a helicopter, are far removed from the formal design concepts of his contemporaries. Although he uses accepted Renaissance forms in detail, his approach is extraordinarily far-sighted, with an astonishing prescience of the need for multi-level communications.

PALMANOVA, 1593

Here the theoretical principles of Renaissance planning were put into effect on an ideal site. Complete symmetry around a focal point with roads radiating in all directions, give automatically a series of distorted building forms. This is probably the greatest limitation of Renaissance planning, that it tends to force building forms into a rigid scenic mould with little regard for their individual purpose. (Left)

ITALIAN GENESIS



IN MY FIRST article I referred to the vital spark of vision which is of such critical importance in the creation of a civilised environment, and which is so liable to disappear in the complex technical and administrative processes of planning. The visionary or imaginative ideas of the planner are inevitably based on his accumulated knowledge, and it is interesting to see how planning ideas in the past have so often been conditioned and trammelled by a rigid set of traditional rules.

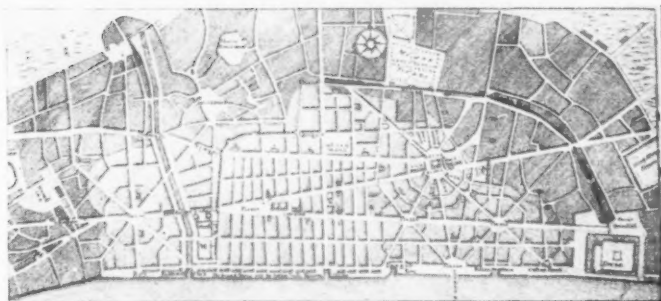
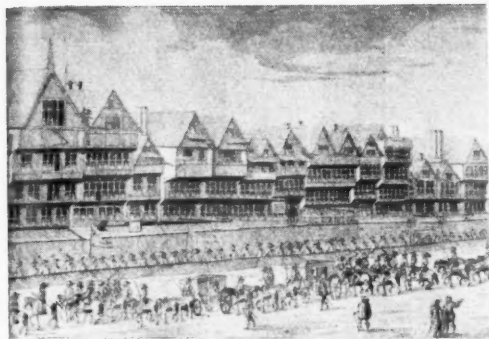
For centuries men have had visions of ideal cities, from the early Indian philosophers, whose ideas were dominated by religious observance and the caste system, followed by the Greeks, where they appear as offshoots of political studies. They do likewise in the case of such medieval philosophers as Thomas More, whose *Utopia* has a not very inspiring urban vision, and it is only with the Renaissance that speculative ideas about the design of ideal cities really began to proliferate. For the most part they took the form of geometrical patterns, assuming complete symmetry around a central feature and providing vistas and compositions which assumed that the architecture was made of complicated stage sets or painted compositions, whence, indeed, many of the ideas had originated. In startling contrast to these somewhat stereotyped exercises were the studies of Leonardo da Vinci, whose powerful imagination and scientific curiosity broke through to more fundamental problems of town planning.

The geometrical theorists, however, held the day, and the next three centuries, too, for whenever the opportunity occurred, as it did, for instance, in Paris, thoughts were concentrated on even longer vistas and grander symmetrical compositions, until the incredible vision appeared of the Louvre duplicated. This kind of thinking carried right on into the present century, where one finds its realisation in New Delhi or Belo Horizonte in Brazil, and a cloudy outburst of dreams in the wartime Academy Plans for London.

In Britain a number of other ideas were pushing forward, and of these a series of projects for multi-level communications, so pertinent to today, are probably the most valuable. They began with the bold Adelphi scheme by the Adam brothers in the 1760's, where the gradient down to the Thames was used as a means of achieving lower level commercial circulation, and they continued with the extraordinary 19th-century railway developments, where the new railroads were sometimes carried through on two or more levels above the ground or later as a complete system below it. Here was the quality of imagination and practical application which if only it could have been applied to city

* Third part of a report of the lecture given at the R.I.B.A. on 9 December 1958, with Mr. Basil Spence, President, in the Chair.

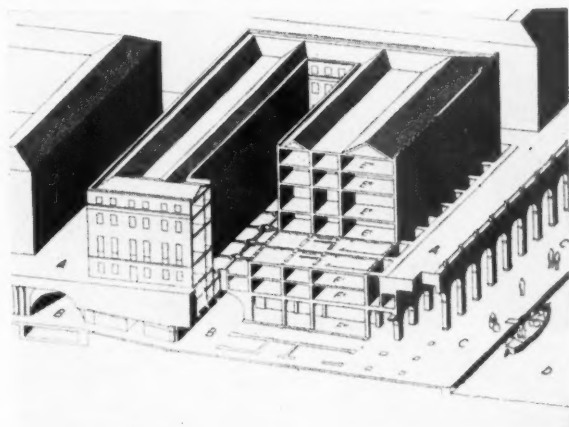
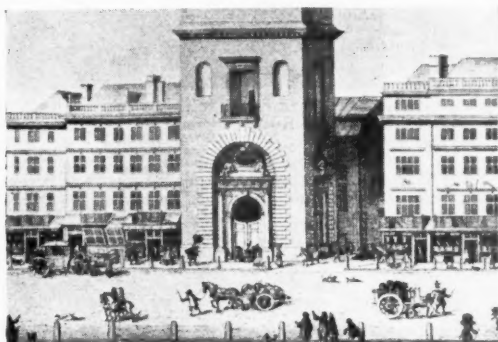
LONDON EXEMPLARS



WREN'S PLAN FOR LONDON

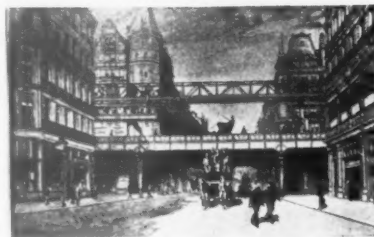
The contemporary planner has precedent enough for frustration. Wren's plan was a masterpiece of Renaissance urban design, and would have put London centuries ahead in terms of comprehensive planning.

The rebuilding of cities is, however, a complex process, and although the merchants of London threw away a wonderful opportunity of securing a superb layout, they did get a large number of urban improvements, as these before-and-after views of Cheapside show. Controls of all kinds were instituted, and they added up to an entirely different urban scene.



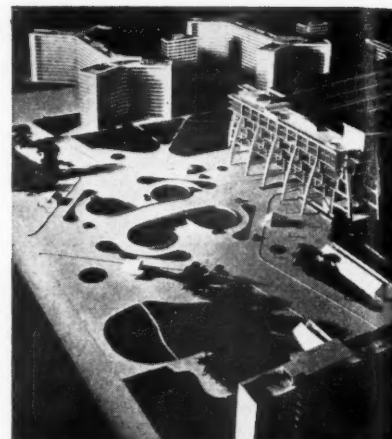
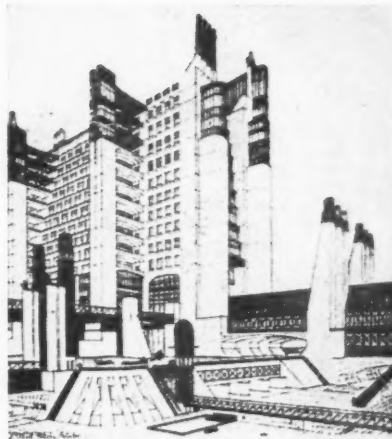
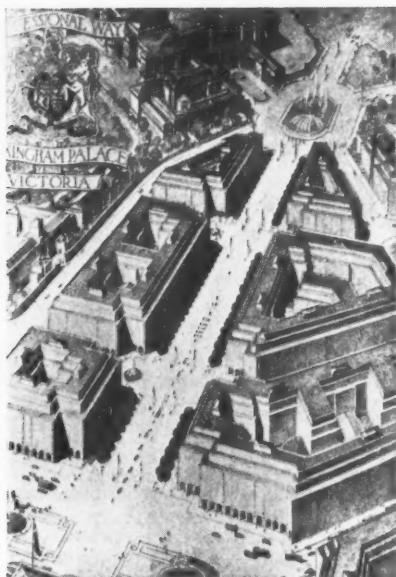
Above L: is a sectional drawing of the Adelphi, and shows how the Adam brothers were alive to the problem of multi-level communications nearly 150 years before the motor vehicle.

Above R: is Holborn viaduct, an astonishingly bold overpass of the 1860's.



Bottom left is an imaginative drawing of how the new railways might be introduced into the urban scene at the beginning of the railway age. The multi-level problem is solved, but the terminus needs more thought.

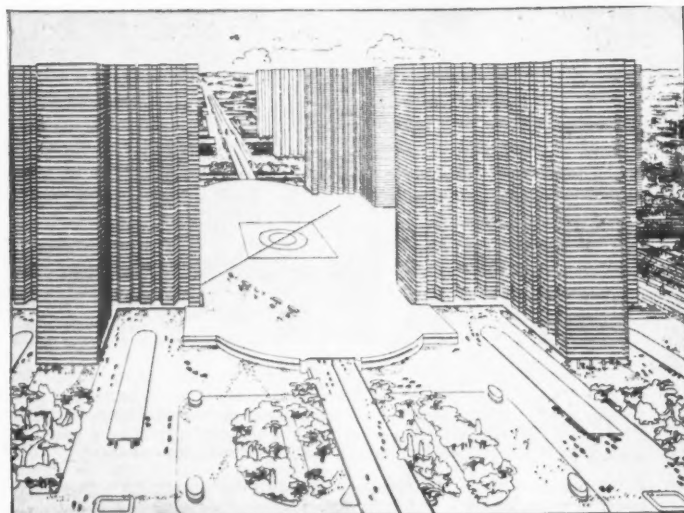
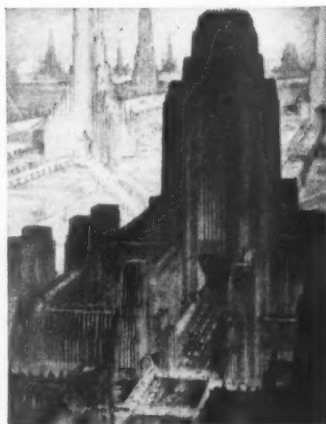
Bottom right is another imaginary attempt at introducing no less than three levels of communication. All these studies antedate the motor vehicle.



The theoretical rules of Renaissance planning have held urban design in a vice grip from which only the modern movement in architecture has freed it. The Royal Academy was still suggesting that London should be replanned like this (*top left*) during the last war.

On the other hand, a number of futuristic thinkers, like St. Elia, were working out new ideas (*top centre*) for cities even before the First World War. Although, during the inter-war period, comprehensive redevelopment was impossible, a few private promoters performed a valuable service by commissioning progressive architects, such as F. R. S. Yorke, to produce ideas for rebuilt cities in model form (*top right*).

During the inter-war period the idea of the skyscraper dominated much American thinking. The arch prophet of this muddled vision was Hugh Ferriss, whose dreams (*centre left*) look more like nightmares today. They achieved reality in a modified form with the Rockefeller Centre (*centre right*) whose minute open space, akin to the water in a well, has been highly praised as real estate generosity.



It was left to Le Corbusier to imagine a totally new environment, developing the imaginative possibilities of the new technological advances in high buildings and multi-level communications. Like Leonardo, he freed himself from most of the worn-out theories, as this drawing of his Ville Radieuse (*left*) shows, and in doing so gave direction of a fundamental nature to the new planning.

Birth of the New Vision

planning as a whole, might have created wonders. By this time, however, property boundaries, site values, and all the paraphernalia of land speculation was effectively preventing even the older dreams from being realised.

With the turn of the century and the birth of the modern movement in architecture came a number of spasmodic attempts to imagine new kinds of urban environment, but it was only with Le Corbusier's Ville Radieuse that a total concept of the new city was put forward. Here, with the rational use of the high building, the full development of multi-level communications, and the inclusion of the romantic landscape, was a fundamentally new urban vision. Everything, since then has been an improving, a modifying, a humanising of this dream. Today we are still in the early groping stage of the new vision; the total design of the city depends on the evolution of the design forms of its many components and of their integration over a period of time, and many of the associated financial and

organisational problems are still to be solved.

There are certain essential considerations in any visionary ideas for today's cities. First they must be based on an understanding of the total needs of man, and not dominated by any one limited idea, no matter how dramatic. Ideas for today tend to emphasise the problem of 'getting there': no less important is to design for the 'having arrived' problem.

Secondly, they must contain an awareness of tomorrow's problems, like the visions of Leonardo; but, above all, they must be capable of being translated into reality.

As Aristotle said in the *Politics*, when describing his ideal city, 'there ought also to be temples erected at proper places, both to the gods and the heroes; but it is unnecessary to dwell longer and most minutely on these particulars, for it is by no means difficult to plan these things, it is rather so to carry them into execution; for the theory is the child of our wishes, but the practical part must depend upon fortune'.

ACKNOWLEDGMENTS

I wish to thank the following for their willing help in regard to the illustrations:
Miss I. Darlington, Archivist and Librarian, L.C.C.

The American Embassy Information Service.
The Editor of *THE BUILDER*, for permission to reproduce the drawing of Palmanova by Mr. R. B. Thomson, M.A. [A]

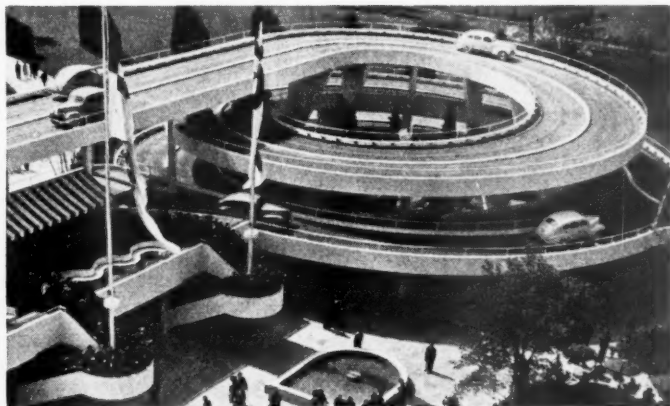
Acknowledgment is also made to the following sources:—

La Scenografia Italiana, by Corrado Ricci; *Towns and Land*, by Bernoulli; *The Metropolis of Tomorrow*, by Hugh Ferriss; *Le Corbusier and Pierre Jeanneret, Œuvre Complète de 1910-1929*; *THE CARVEYOR BULLETIN*, No. 256; *THE ARCHITECTURAL FORUM*; *Royal Academy Planning Committee's Plan for London, 1943*.

CORRECTION

Comprehensive Redevelopment II: Additional Acknowledgment. In the May *JOURNAL*, page 244, figure 3 ('Densities and Land Use study from the County of London Plan') should have had the following acknowledgment: Reproduced from *The County of London Plan Explained*, by Edward Carter and Ernő Goldfinger (Penguin Books, 1945).

The article is continued overleaf



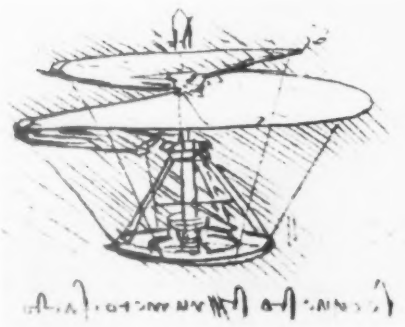
Visions for tomorrow's cities are inevitably bound up with technological advances. New discoveries have concentrated on the problems of getting people there rather than with what they do when they have got there. *Top left* is an idea about multi-level communications from the New York World's Fair, 1939, and shows what an important source of ideas exhibitions can be. *Bottom left* is the carveytor, which with the moving walkway is just becoming a reality in urban centres.



ABOVE—This subway "CARVEYOR" system of small cars, circulating continuously between crowded centers, was designed to relieve street and sidewalk congestion of thousands of persons per hour.



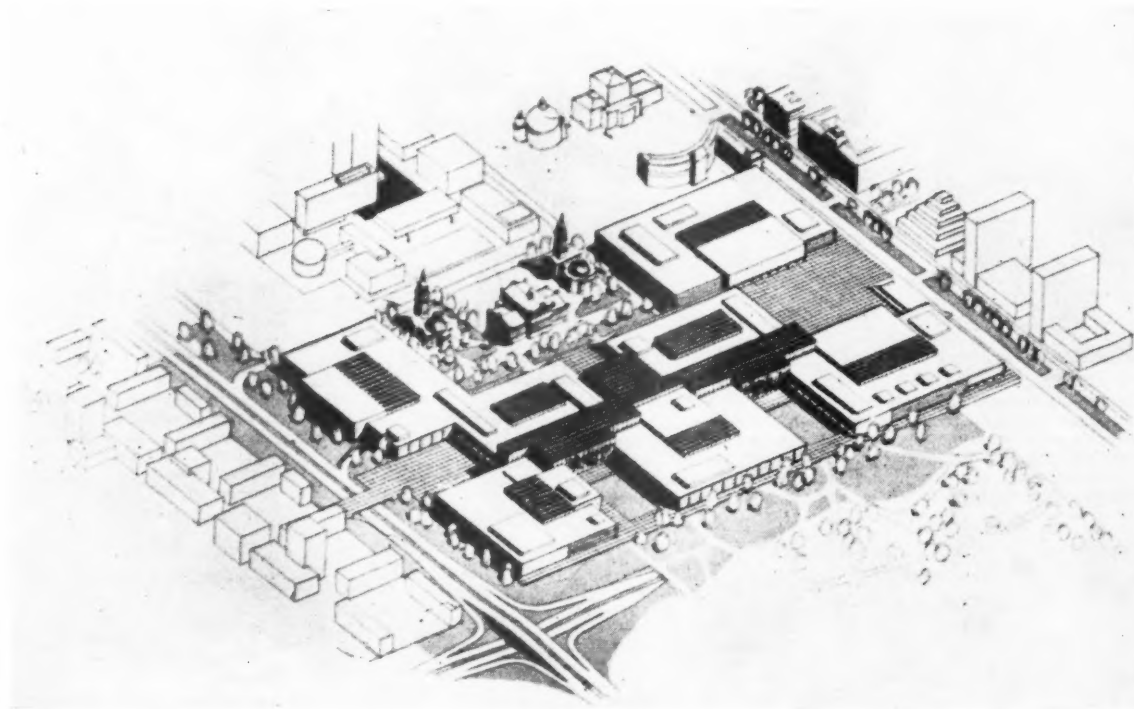
The hoppiceptor (*top right*) offers fascinating but dangerous possibilities of ultimate personal mobility, but even this, like most new ideas, is not so new after all, as Leonardo only lacked the accompanying technological skill to make it a reality (*bottom right*).





One of the most interesting essays in the new vision is the Fort Worth project by Victor Gruen in the United States. In the before and after views above, one can see how he surrounded the city centre with motorways and created a pedestrian precinct within its redesigned and decongested (by American standards) centre. Commercial traffic ramps down to basement access and car parks are arranged on the perimeter.

Planning Visions



Last year Messrs. Boissevain and Osmond, Colin Buchanan and I entered a competition scheme for the centre of Berlin. In this we endeavoured to develop some ideas of comprehensive urban redevelopment. The isometric (*above*) shows the main shopping precinct. The whole centre was planned in precincts on which normal human activity took place at first floor level. The whole ground floor was thus given over to the motor-car, with commercial access in the basement. Each precinct would have a municipal core of services, lifts and escalators, accessible by a moving walkway from the underground railway. All traffic was one-way, and the slopes between road and buildings would be designed to give a new urban landscape.

Architects to the Rescue!

by E. Maxwell Fry, C.B.E. [F]

A Speech delivered at the Annual Convention of the Royal Australian Institute of Architects held at Brisbane on 7 May, 1959

I SPEAK FIRST of the pleasure and delight of architecture and of those wonders that remain for us of our European past—Chartres, Lincoln, Trinity Library, Kedleston—the substantial relics of emotions and circumstances now passed completely away. I remember that in some periods of our history architecture has been indeed the mistress art, and I think of it as being so again, of helping to restore to a world led far from its bases a sense of unity and the power to celebrate the wonder and mystery of the nature that moves through us and is about us.

I speak to a world that has gone mad with cleverness and seek in our own art for the answer to problems that perplex scientists, politicians and men of power everywhere.

For this art of ours has the advantage over others that its materials are drawn from the life stream itself, leaving no part of it untouched; its inception is an intuition of the same order as that of Shakespeare or Michelangelo; and its works remain as the continuously tangible mould and background of human conduct long after the original impulses have faded, so that it could be truly said that institutions continue to exist only as defined by the architectural form with which they have been invested.

Where architecture follows the world in its materialistic course it can do little to alter events, but I see signs of its cleaving to its truer nature as an art deeply founded on the springs of human nature, and I speak to those among us who feel the need to be dedicated to something better than a practical service.

I must, therefore, inquire into the process of architectural creation for it is there that the secret lies, and only by becoming aware of our responsibilities to it can we hope to exercise the deeply persuasive powers that lie open to us.

It has three stages: a germinal period that comes to a head at every instance of design; a critical period of intuition; and a longer period of correction or readjustment of the intuition.

Of these stages the first is the least understood and the most neglected, yet it comprises the better part of the life of the dedicated architect.

What distinguishes architecture from mere building is feeling. Such feeling has little to do with cleverness or even intelligence as such because it is found in humble people living simple lives; but in so far as architecture is an art complicated by the diversity of its social demand and the materials and structures of its composition, and being in addition long drawn in its process, temptation towards superficial activity and cleverness is strong and the

maintenance of true feeling the more difficult.

Yet the richness of architecture and the depth of the response it invokes is directly proportionate to the range and intensity of feeling available at the moment of intuition. And it is personal experience. No amount of knowledge and experience held by a group, no quantities of libraries, no store-houses of statistics, unless they have been absorbed through the consciousness of an individual, are of any value.

So, therefore, I have to imagine the truly dedicated architect as one lying open to all the impressions of the world about him, but particularly to the effects of nature and nature's substitute, art; who is of the world and yet apart from it because it is his particular task to seek the reality underlying appearances; to find the structure of human associations equally with the simpler structures that are the mechanics of his construction; to feel the nature of the materials he is to bend to his purposes; to sense the onslaught of the seasons, and the beat of time; and finally to know within him, and to trust, the promptings of his own heart and the stirrings of those instincts that shape his mind and guide his hand to the creation of the unities that are the reflection of complete small worlds of idea and matter.

Such a one brings to the elucidation of his clients' needs a wealth of personal experience and a scale of reference wider than the stated need, into which he blows the essence of the living world and the sense of time past, present and to come.

Thus Corbusier when he came to design the plan of Chandigarh—which was as good as done in four days with four of us round a table in a rest house on the Simla road—brought to it the rich fruits of a lifetime's observation and thought on city planning, of contemplation on the nature of man and his works, of experimentation, of observation into the spirit of his time and into the excellencies of times past; beyond these decisions made with coloured pencils on white paper lay his dedicated architect's life.

So we come to the next stage in which the bald facts of a programme of needs and everything else out of the experience and imagination of the architect that can be brought to bear on the problem, the whole assemblage of date, fact and fancy, is grasped into the coherence of a single idea by an act of intuition. Whatever reasoning and calculation may have preceded it, whatever considerations of economy may have weighed with it, are submerged in the critical period which is commanded by an intensity of feeling, guided perhaps by the mind, but powered by the instincts.

These are not moments of struggle, but release. What makes Mies van der Rohe's Seagram Building a monument significant for the technocratic idea is not the brilliance of his inspiration but the intensity of the dedicated life that led up to it; yet it could be said that without this life the moment of intuition could not have succeeded.

There then is the Seagram Building, the outcome of a lofty mind mixing with the very stuff of life at one of life's most active centres. It is a monument, though hemmed by grosser matter, a thing complete and sufficient, single, unique. It is a monument but inhabited, and so a little world, moulded and textured and deeply persuasive of a way of life issuing from the mind of one who had thought deeply upon it, and celebrates his belief.

This for a single building, but in an age that must build and re-build under the impulse of mounting powers and spreading populations.

Let me complete the process by describing the last stage of correction and readjustment, when the idea announced, it is given the features exactly appropriate to it, and proportions related in every part. This work, whether it be large or small, is a little world in itself, and with connectedness so much its essence that it could be possible to recognise it by its doorknob, as I might know Sussex by an oak tree; and it should be impossible to subtract or alter a part of it without reference to the whole, just as nothing can be done to the greater world outside without some compensating shift taking place elsewhere on it.

Now I would have you notice what takes place within a work of architecture is analogous to the conception of civilisation itself. In a work of architecture a group of facts, objects and ideas, not hitherto related in any way, are fused into a single and coherent whole under the pressure of strong creative emotion, so that the work of art that results bears little resemblance to any of the parts out of which it has been constructed.

Although this work has normally to serve some contemporary need its nature transcends the need and projects the original and possibly quite practical impulse into the future ready to meet needs not yet fully adumbrated. Thus modern architecture, especially in its early days, tended to infuriate ordinary people who failed to recognise the process of change which it announced. What disturbed them was not the architecture itself, for the loudest among them had the least taste or knowledge of architecture of any kind, but the sudden change in their familiar environment. What they experienced was alarm, which is natural enough.

Civilisation is the process whereby we successfully adjust ourselves to the normally antagonistic circumstances by which we are surrounded so that we reach some stage of near harmony, emotionally satisfactory. I say it is a process because the element of change and growth is always present.

But there have been periods of intense activity which have engaged the best of minds, invigorating because of the promise of fulfilment they held out. They appear in retrospect, significant. Though we can but guess at what actually took place, the works of art—the pictures, poems, sculpture and architecture they left us—are forms that can only have been the result of emotional living of the richest and most vigorous order.

These recognisable periods have had as their prime agents either war, religion, liberty or intellect, as you may read in that curiously attractive book of Wynwood Read's called *The Martyrdom of Man*, and we are now to consider whether intellect, which is clearly the leading motive of the civilisation to which we belong, is a sufficient basis for satisfactory civilisation; or whether perhaps, having brought us to a position of seeming command over the material circumstances of the world, it is not in need of some strong inflection turning it from materialism, insufficient in itself as a motive, towards that state of wholeness which is the characteristic of a work of art.

We may trace the growth of intellect as a guiding motive in human affairs back to Galileo and Roger Bacon, spokesmen of a new life replacing an age of faith.

It took recognisable shape in the 18th century which for all its formalism was the golden age of scientific discovery that fixed for the next two centuries both the laws of nature, by means of which physics came to dominate an ever expanding world of science, and the moral climate in which its offspring, industrialism could flourish.

Newton's famous Laws of Nature have been superseded by more recent discoveries and science itself has expanded in every direction to the edge of uncertainties everywhere; but the simple certainties that Newton propounded, and his laws that never ceased to work within the limited conditions that were thought to be necessary for them, created the moral climate in which we today make momentous decisions from which considerations of human happiness and dignity are by tacit consent excluded.

To these laws we owe a great service to mankind. They have enabled us to obtain a new command over nature. But they have done so at a correspondingly great cost in the quality of human life, as we in England, surveying the awful legacy of our industrial towns, know to our cost.

Newton's interpretation of nature was essentially materialistic. It was a cold abstraction. In philosophic terms it lacked concreteness.

Erected into a working faith for an expanding industrial system it ensured

materialism and by-passed every appeal to religion or art.

Continued in as the sort of mindless optimism that characterises most of the modern press, or into that dead-pan cynicism of the American business-backed weekly, it becomes the chief agent of social disintegration and the breeding ground of dictatorship and slavery. What was once a stimulant of human effort has become a drug.

Science itself, caught into its own machinery is not immune, and tells the joke of one biologist being unable to explain his thesis to his fellow scientists for want of a common language. The higher seats of learning, under constant pressure from state and industry to specialise, are haunted by the Nemesis of technics, and search, with ineffectual moans, for the whole man.

Meanwhile, under the battery of mass news, the unending succession of photographic stimuli and the sound of false voices 'suggestive, ingratiating and authoritative'¹ the 'common man loses his capacity to respond, his experiences become weaker, and his identity as a conscious human being is extinguished. His world, previously animated by living spirits, has become a world of objects and products.'

Let me return to architecture itself by a devious route. I have been making some examination recently of building types that lie below the level of what is classified as architecture yet move us deeply by the beauty of their form and texture, and which are also strongly reminiscent of natural form.

I have called them by the general name of Instinctive Architecture because they appear to have occasioned the most use of instinctive feeling for what was right and appropriate to their case, whether it were an African Kraal, an Italian hill town or a mud village on the Indian plain; and the least use of intelligence as we understand it.

Their common characteristic is an approximation towards natural form, as for instance, an Italian hill town seen from a distance takes on the semblance of a lichenous or fungoid growth; and they are the outcome of simple and unchanging problems of building to which succeeding generations have applied themselves, using the simple tools and local materials available to them and the accumulated wisdom of the society to which they belong.

Now although this architecture of sorts gives us the warmest pleasure and is sought after, and nearly as soon destroyed, because it is fragile, by the tide of tourists freed for travel by modern locomotion, there is little sign of it in what we do today. It is nearly completely missing. Humble people rarely build their own houses, and there is hardly an article or an ornament, not a tool or a utensil, that does not issue from the vast industrial machine that rules our lives.

If I were to say that the longing to be associated with instinctive architecture has guided the work of Frank Lloyd Wright,

¹ *The Tower and the Abyss*, by Erich Kahler.

and that Gropius has worked to give appropriate form to the industrial product, I have personalised the divergent aims, and pointed the horns of a profound dilemma!

In fact there is no choice. We cannot go back on our tracks. Gropius is right and we must examine the industrial system, and if we come to the conclusion that it lacks this element of warmth and feeling that I find in instinctive architecture we must change the industrial system through art, or accept the consequences.

The chances of doing so are not entirely remote because I do not believe that the common people are by nature indifferent to emotion or by necessity vulgar.

They are stunned as we all are by the onslaught of mechanism and reproduction and they are at the mercy of an insane commercial world, incapable, by its adherence to false myth and day to day greed, of offering any leadership.

We stand to the common people in a relationship that is at once practical and prophetic, because if I am right in supposing that the products of industry, through subservience to the machine idea, are lacking in this reference to natural form and human warmth then it is our job to divert them towards it.

I am not preaching folk art. I would not thank you for most of the folk art produced today. I seek the appropriate form through purpose and quality of the industrially made article. When a pair of garden shears are designed to get the very best from the industrial process and serve their human purpose superlatively well they have a sort of contemporary style and they are as emotionally satisfactory to us as an old fashioned scythe is thought to be because the human reference commands the process and form. That is good enough for our purpose in small things.

One of the results of the process of dehumanising brought on by the machine age is the destruction of communities in favour of vast collectives without social ferment. In 1958 I visited Detroit in order to see Saarinen's group of research buildings for General Motors, to do which I had to penetrate some twenty miles into a region uniformly exploited for a uniform population of technocrats, inhabiting houses uniformly distributed over a flat landscape in endless undifferentiated boredom, but scored across with masterful highways lined with advertisements.

It was a formless chaos adding up to nothing. But suddenly in the midst of it I came upon Victor Gruen's Northlands Shopping Centre, which was a form. Here in the midst of a car park for 9,000 cars was a centre lifted up above its service floor, a thing of courts and gardens and shops catering for everything from the cradle to the grave. And I watched the people get out of their cars and stroll about and recognise themselves as human beings and families as though it were a new experience; and though the purpose of the centre is commercial and exists only because it is so difficult to drive into or park in Detroit, something of Gruen's

ripe Viennese nature is breathed into it, and it is more than its commercial purpose warrants.

I found elsewhere in the United States evidence of a desire to humanise the centres of cities, banishing the senseless automobile in favour of pedestrians and some greenery and works of art that celebrate man's status instead of depressing it. They call it 'city renewal' and if they succeed in creating centres in which you can hear yourself speak it is a move in the direction of re-integration.

Architecture in itself is not enough, but its natural extension town planning provides an instrument that touches life at every level and is directly concerned with the chief end of life, which is to live well.

Town planning is unfortunately beset with all manner of pseudo-scientific nonsense and has been allowed to drift into semi-isolation as a half-art, useful for the official jobs it bestows, but otherwise a drug on the municipal market and one of the dreariest exports we have ever encouraged.

But towns are composed of dwellings. Each dwelling is a work of architecture and contains a family group. And each group of dwellings has an identity as a larger work of architecture and contains the germs of a community. And as group is added to group the town emerges, identified in its districts and its precincts, and is still architectural, as the Tuileries is still the architecture of the Louvre, or Regent's Park the architecture of its terraces.

How to divide it without loss? and who should control it if not the architect?

Now because of what took place in the 19th century—the elevation of materialism to a working faith—we think of towns as a piece of machinery that can only be controlled by engineers and surveyors, and as a result there is little joy in them.

But towns are works of art, the supremest works of art of any civilisation as can be witnessed in Paris, Rome, Florence, Bath, the West End of London, Venice, Jaipur, Peking. Wherever towns are works of art there man flourishes and rejoices. He celebrates his good fortune to be alive.

Now I am at a standstill. I contemplate this activity called town planning and wonder whether it is an intellectual figment hoisted on to an indifferent society, listening to its radio or sitting about like Henry Moore figures absorbed into T.V. or whether it is a valid idea and whether we should launch ourselves against the whole world of mass sales and mad efficiency, saying life has a form, it is not a collective turned into the State or the Prudential; people are not advertising matter, but people; and people must remain people and correspond with each other and form communities of interest and recognise each other as communal, with emotions that can be satisfied only in mutual exchange for the joy of themselves and the salvation of their children.

In an age of transition from a period of unexampled change we architects are the chief agents of man's prime activity which is no less than the creation of the physical

and to a large extent the spiritual environment in which he passes his life.

By virtue of the process of architectural creation, which I have been at pains to describe in detail, we are artists, and being truly so we resolve at every instance of design, every factor that is involved by it—physical, mental, social: we create unities and each unity is an example of the new sort of life we may be permitted to live within the circumstances by which life is dominated: and each example celebrates that life in the pleasure of its creation.

Much of science is single stranded in its approach and achieves its success by leaving out what proves to be important as soon as it is brought into contact with society, so that only too often a scientific success can be a human failure.

Industry, commerce and, increasingly so, government, is coloured by this spectacular, but alas partial, success of science; and art is depressed in favour of mere production and reproduction that drives out what alone can enable us to survive successfully, namely the ability to create.

Charles Eames, who has been addressing us in London, remarks on the poverty of invention in children's toys, which were once rather primitive but inventive, and are now no more than scale models of something bigger, with every avenue for exploration and invention sealed off; useless, and therefore harmful.

Motor transport, indeed mechanical transport in general, is another case of partial thinking exaggerated by material success into the major nightmare of urban life now more destructive than helpful; devoid of wholeness.

The camera, nearly totally rejected by art, serves to dull human responses by offering an avalanche of violent stimuli through press, cinema and television.

Instances multiply pointing everywhere to an equal decoy in our ability to find harmony, from the too-potent instruments and machines this one-sided approach to life has generated.

Now I say categorically that architecture must offer alternatives in every sphere of the wide territory that is our rightful province, and this is how we could do it.

We must merge town planning into architecture, or widen architecture to include town planning as the art to which architecture constantly aspires. There should be no separation.

Secondly we must set out to raise it to its status as a primary instrument of government, controlling the use of land and forming the practical and idealistic background of living.

To do this we must establish a centre of urban design in which the art and the subsidiary sciences of architecture and planning are combined for this great purpose of discovering the form our civilisation should move towards; If I were talking of England I would do this by amplifying the organisation of the London County Council as being the active experimental agent to which the more speculative policy-forming directorate could be

attached. This is no stranger than having our national cricket represented by the M.C.C. The aim is to have a current body of concrete experiment, since we are not out to create theories but to direct an advance towards civilisation by subordinating both art and science to a common ideal.

All urban planning should be three-dimensional, advancing in scale as projects reach maturity, and I can think of no better example of how this can be made effective, both as a means of study and for the propagation of ideas, than the wonderful planning workshop of my old friend Van Eesteren, the planning director of Amsterdam. There is the working model of the national centre I have in mind, with an artist in control.

One of the objects of this centre is to prove to society at large the absolute necessity of subordinating private interests to the pressing need of the community to survive and flourish. Our 1947 Town Planning Act assumed this without proof, but proof is required and must be made manifest. We must find means of expressing the struggle to regain control over the bad environment we have created for ourselves, the drama of man and the machine.

In the 12th and 13th centuries there was built in the Isle de France a group of cathedrals which for size, audacity of construction and sheer beauty of conception have never found their match again, not even in this world where productivity and efficiency have been made into a false religion.

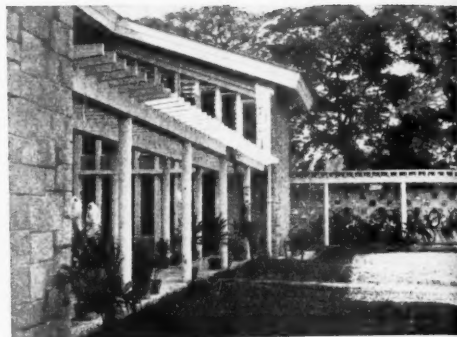
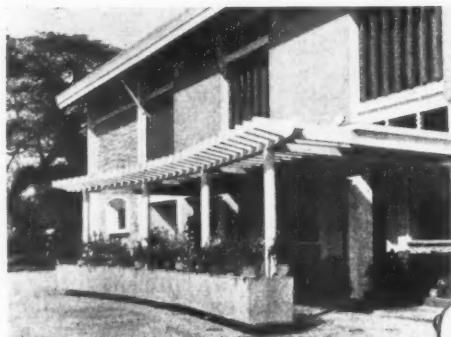
Measured against the small population of that region they are a prodigy of human effort, but their productiveness does not rest there, has never rested, since they speak clearly to me now of what is possible to the dedicated life of the spirit, and what is possible for us even now if we can but turn from the awful contemplation of material doom to the creation of a true civilisation in our time.

I do not care whether town planning is done by people with town planning degrees or whether architecture is done by architects or engineers. What I care about is that it should be done with feeling and not calculation, with the heart as well as the mind; and I will say without fear of contradiction that a town is a work of art or nothing, an unfinished work of art if you like, but a work of art corresponding to the germinal emotions by which its citizens, by which all of us are primarily moved.

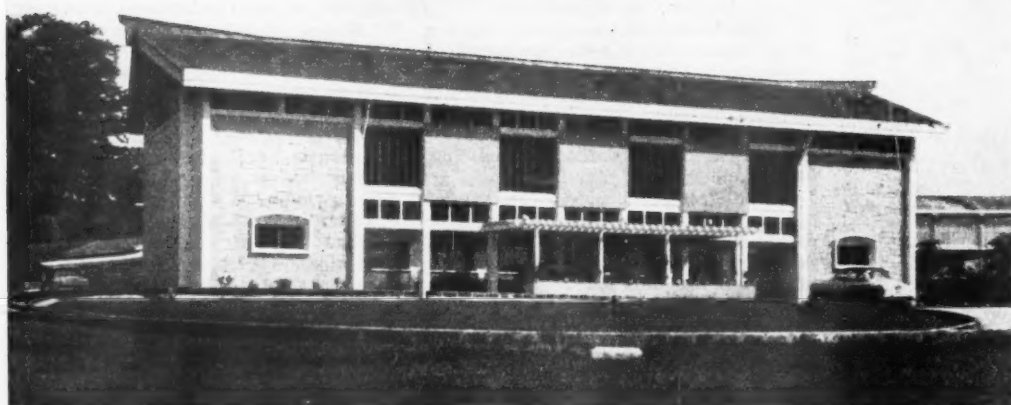
Let whoever will do the drains and arrange the camber on the streets! This matter of drains and traffic and street lighting and accurate surveys and the like falls into place in any well ordered work of art. It had a top place in the 19th century but if society is to save itself from catastrophe; if it is to enjoy the good things of life, let it decide what is important and set about making something to compare with Paris, Rome, Florence, Bath, the West End of London, Venice, Jaipur, Peking. Let it, as Voltaire said so long ago, cultivate its own garden.

The British Council Centre, Kuala Lumpur

Architect:
K. C. Duncan [A]
 P.W.D., Federation
 of Malaya



Above L: The main entrance, which opens into the library on the ground floor. Above R: Rear elevation showing one of the main staircase halls, and perforated screen.



L: Front elevation facing S., with large adjustable metal fins on first floor. Below: Model showing staircase halls, balcony and garden with caretaker's quarters connected by covered way with perforated screen wall.


THE BRITISH COUNCIL, who take an active interest in all types of social and cultural organisations in Malaya, have for the past three years been housed in their new Headquarters at the junction of Bluff Road and Victory Avenue, Kuala Lumpur, which was awarded the R.I.B.A. Architecture Bronze Medal in the area of the Federation of Malaya Society of Architects for the three-year period ending 31 December 1957.

The site, which is said to be one of the finest in Kuala Lumpur, was given to the British Council by H.H. The Ruler of Selangor.

The building was designed and sited to make the best use of natural ventilation as the money was not available for air conditioning. It is of r.c. frame structure with brick infilling faced with bush-hammered coloured cement rendering and local limestone. Window frames are of local hardwood fitted with fixed and adjustable glass louvres giving maximum ventilation, and large adjustable vertical metal fins for solar control.

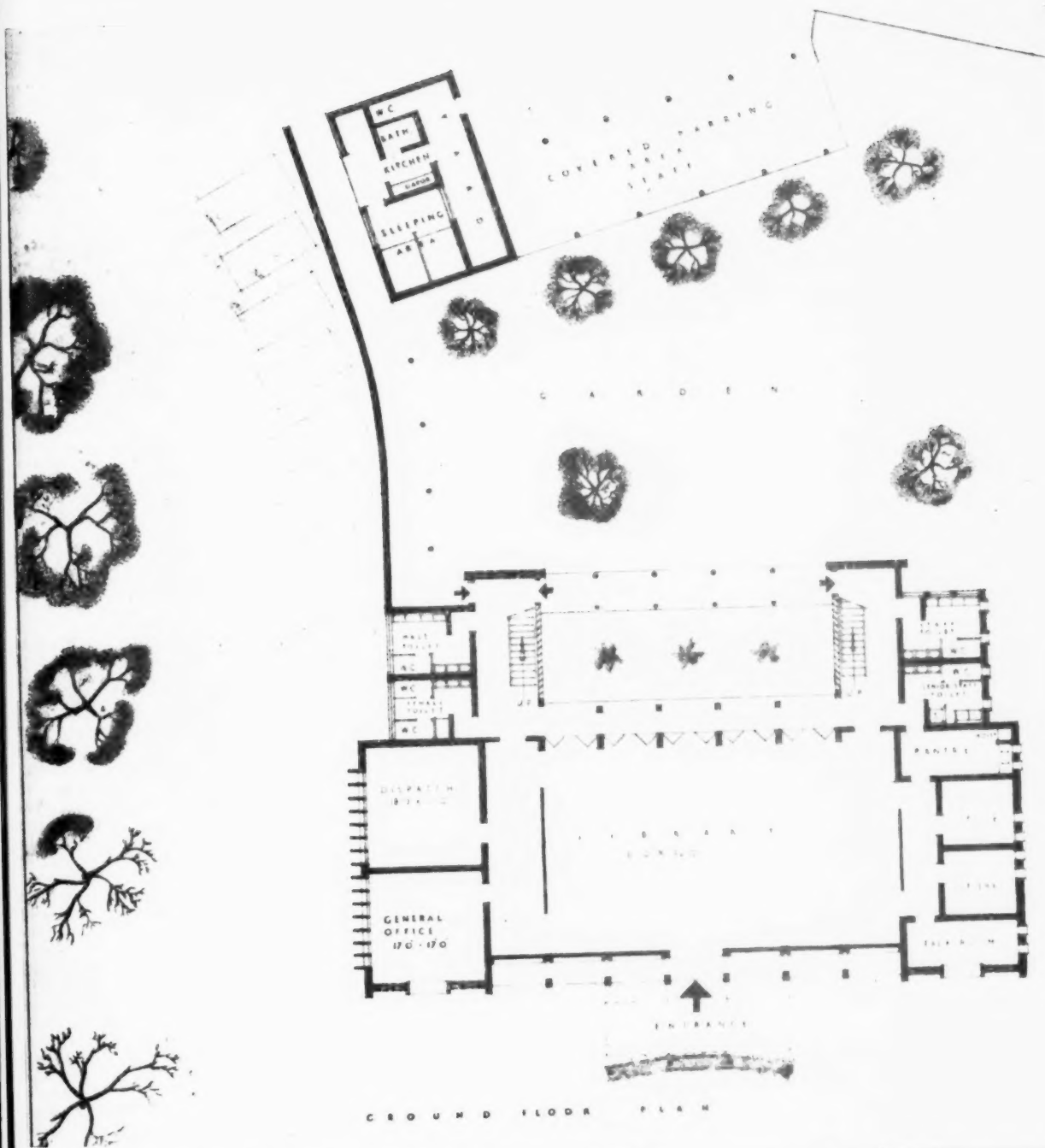
The roof, of steel trusses at 25 degree pitch, is covered with chocolate brown





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cement local-made interlocking tiles with an underlay of aluminium foil. The overhang at the eaves is 6 ft., the soffit being finished in a rough cement rendering on metal lathing.

The roof ventilation is by means of an opening covered with copper mosquito mesh in the soffit to the eaves which runs right round the perimeter.

Ventilation at the ridge is obtained by use of a double ridge separated by timber distance pieces at intervals forming an opening of approximately 2 in. between the ridge boards for the passage of air from the interior roof-space. The timber separators are extended above the ridge to support a timber weather capping, and the whole of the ridge is covered with copper sheeting, which has up to the present time turned a dark brown colour. The floor finish to the main hall on the first floor is wood block in Siamese teak on 2 in. cement screed on a glass wool blanket which is laid on the main reinforced suspended floor. This treatment has resulted in good insulation against the passage of sound to the Gurney Memorial Library below.

Practice Notes

Edited by Charles Woodward [4]

IN PARLIAMENT. MINISTRY OF WORKS. Building Research (Standing Conference). Mr. Janner asked the Minister of Works whether he is aware that the multiplicity of architectural research organisations which exist in this country make for confusion and expense in building; and whether he will consider setting up a department as is done in Holland and Sweden for the purpose of sifting and classifying technical information and presenting it in a standard form for easy filing.

The Minister of Works (Mr. Hugh Molson): The Government have for some time felt that there was room for improvement in the co-ordination of building research. It therefore decided that all research should be under the D.S.I.R. As recently announced, I shall not, therefore, re-appoint my Advisory Council on Building Research and Development. In its place there will be a Standing Conference on Building Research, which will be under the aegis of the Lord President of the Council.

The dissemination of technical information will continue to be my responsibility. I am discussing with the industry the many problems involved.

Mr. Janner: While thanking the Minister for that reply, may I ask if he is satisfied that the new set-up will provide facilities for architects quickly to obtain available information so as to cut down the expense on building, and provide more efficient buildings?

Mr. Molson: That is exactly what I am at present discussing with those concerned in the building industry—architects,

builders and quantity surveyors (5 May 1959.)

MINISTRY OF HOUSING AND LOCAL GOVERNMENT. House Requisitioning must end in March, 1960. Minister reminds local authorities. Mr. Henry Brooke, Minister of Housing and Local Government and Minister for Welsh Affairs, has reminded all local authorities in England and Wales who still hold requisitioned houses that their power to retain possession of these premises expires on 31 March 1960, and that he is not able to extend this time limit.

A Ministry circular says, 'By the end of 1958 the number of dwellings held on requisition by local authorities had been reduced to 28,099 compared with the 89,597 dwellings transferred to them on 6 June 1955. But though this shows that considerable progress has been made, there is a great deal still to do and not much time to do it in if derequisitioning is to be completed by the due date. This applies especially in the Greater London area where 25,362 dwellings are still held by local authorities.

'Holding authorities should now embark, as a matter of urgency, on a special and sustained effort to bring their use of requisitioned houses to an end within the next thirteen months. In this connection, they are reminded that the provisions of Section II of the 1955 Act, under which substantial Exchequer assistance is available to enable authorities to lease or purchase houses, will not apply to any transaction entered into after 31 March 1960.

'The Minister also wishes to remind local authorities of the several ways in which licensee families who cannot provide their own accommodation may be helped. The Act of 1955 contains special provision for payments to owners of requisitioned properties who are prepared to accept the licensees as statutory tenants; and for grants to local authorities who need to lease or purchase requisitioned houses, or other houses in place of them, in order to secure the permanent rehousing of licensee families. Some authorities are managing to obtain leases of suitable properties, thus reducing the need to purchase, and the Minister hopes that all authorities who can will do the same. Many authorities are using a substantial proportion of their own lettings, including new ones, to help in clearing the requisitioned houses; and others will have to do the same in order to finish the job. Every authority with a substantial problem remaining should make firm plans now, if they have not already done so, for solving it by a combination of these measures before the time runs out.'

In a circular to local authorities in 1957 the Minister recognised that some of them, in spite of all their efforts, might not be able to lease or purchase by agreement enough houses to meet their needs, and the circular indicated that in such cases the Minister would be prepared to entertain applications for confirmation of compulsory purchase orders.

'In view of the limited time left', says the

new circular, 'authorities who find it necessary to make such orders are asked to submit them to the Minister within the next three to four months'.

NATIONAL JOINT COUNCIL FOR THE BUILDING INDUSTRY. Travelling and Lodgings. Birmingham Metropolitan Award. At its Statutory Meeting on 14 January 1959, the Council decided to increase from 2d. per day to 4d. per day the special daily allowance payable under the Birmingham Metropolitan Award. This decision will operate as from 16 March 1959.

London Rates

The Council has considered the establishment of uniform wage rates for the whole of the London Region, i.e. the area covered by the 15 miles radius (at present there is a standard wage rate for craftsmen within the area covered by the 12 miles radius and a standard wage rate of Grade A plus 1d. per hour within the area covered between the 12-15 miles radius).

The Council has decided that as from 3 October 1960, there shall be one standard uniform wage rate for craftsmen in the area covered by the 15 miles radius, such rate being the Inner London Rate then currently operating, i.e. the area covered by the 12 miles radius.

MINISTRY OF POWER. Thermal Insulation. The Minister of Power has made the Thermal Insulation (Industrial Buildings) Regulations, 1958, which came into operation on 1 January, 1959.

The Regulations prescribe the standard of insulation required and enable a local authority to reject plans of an industrial building which do not conform to the standard. The Schedule sets out materials which do not conform to the standard unless they are used in such a way as not to increase the risk of fire breaking out or spreading in the building. The classes of buildings which are exempted are also given. (1958 No. 1220. The Thermal Insulation (Industrial Buildings) Regulations, 1958, price 3d.)

The Ministry have issued an Explanatory Memorandum of the Thermal Insulation Act, 1957, which is obtainable at H.M.S.O. price 1s.

Provisions of the Act are dealt with in detail and it applies to England, Wales and Scotland. Local authorities administer the Act and the procedure for making applications is explained together with the right of appeal to the Minister in case of dispute with the local authority. The Minister's decision is final except on any point of law which may be referred to the High Court.

LAW CASES

Henry Boot and Sons, Limited, v. London County Council. 'Rates of Wages.' Rise and fall clause. Holiday money. A building contract provided by clause 23A that if during the currency of the contract the rates of wages payable for any labour employed in the execution of the works in

conformity with agreements between associations of employers and trade unions be increased above or decreased below the corresponding rates in force at the date of the contractor's tender, the net cost or benefit to the contractor of any such increase or decrease should be added to or deducted from the contract price. In accordance with an agreement between associations of employers and trade unions the amount set aside each week under an agreed holiday scheme by the contractor for each of his employees (which amounts could be drawn out by the employee as a lump sum when he came to take his holidays) was increased during the currency of the contract.

The Court of Appeal allowed the appeal by the contractors and held that the sum so set aside, being a weekly sum which had to be credited to the employee each week, was within the expression 'rates of wages' in clause 23A, and so the contractor was entitled to add the net cost of the increase to the contract price. ((1959) 1 A11 E.R.77.)

Perry v. Stopher. Arbitration Costs: No Duty on Arbitrator to give reasons for unusual award of costs. Court of Appeal, 9 March 1959. (Appeal from Croydon County Council.) A builder claimed £54, the balance of his account for work done for the defendant. The defendant disputed the claim under 16 heads. The dispute was referred, under section 80 of the County Courts Act, 1934, to an arbitrator, who gave his findings in a written award. He dismissed seven of the defendant's points in dispute, considered two together, and on the remaining points found on six in favour of the defendant and on two in favour of the plaintiff. He awarded the plaintiff £11 14s. 2d. on his claim for £54, and he awarded the defendant costs on scale 3. The plaintiff applied under the proviso to section 89 (3) to have the award as to costs set aside on the ground that the arbitrator had not exercised his discretion as to costs judicially in awarding them against the successful party in the absence of some reason connected with the case. The county court judge dismissed the application. The plaintiff appealed.

The Court of Appeal said that the submission for the plaintiff was the novel one that, the order for costs being an unusual one, in the sense that having partly succeeded the plaintiff was ordered to pay the defendant's costs, the arbitrator should have stated a reason for so finding. Reliance was placed on a dictum of Lord Goddard, C.J., in *Lewis v. Haverfordwest Rural District Council* (1953) 1 W.L.R. 1486 that 'an arbitrator must not act capriciously and must, if he is going to exercise his discretion, show a reason connected with the case and one which the court can see is a proper reason'. But in that case a reason had been stated; and the Council was satisfied that Lord Goddard had not intended to go outside the context of the particular case which he was considering. There was no authority indicating that a tribunal was required, before exercising its discretion in a particular way, to state

its reasons for so doing, even when it made an unusual or apparently unusual order as to costs. Moreover, it was clear on the face of this award that the plaintiff's claim was very much exaggerated and that he had failed on important issues. It was thus not a case in which it could be said that on the face of the award there was no material for an exercise of discretion in the way in which the arbitrator exercised it. The appeal was dismissed. (1 W.L.R. 415.)

Czewowski v. George W. Warr and King. Plans copied for local authority—Architect's claim for infringement of copyright. Court of Appeal, 17 April 1959. This was an appeal by Mr. Jacek Stanislaw Czewowski [A], from the rejection by Judge Dutton Briant at Brighton County Court of his claim against Messrs. George W. Warr and King, architects and surveyors, for damages for breach of copyright.

Mr. Czewowski's case was that, before he became a qualified architect, he designed a pair of houses for Mr. M. Martyn for erection at Shirley Drive, Hove. Without his consent, the respondents, in September 1955, copied his design, in substance, for submission to the local authority. The respondents contended that the local council had found Mr. Czewowski's drawings unsatisfactory, and accordingly, at Mr. Martyn's request and as a matter of urgency, they reproduced the drawings in proper form. If there had been an infringement of copyright, no damage had been suffered. The judge held that the claim was out of time, having regard to the three-year limit imposed by the Copyright Act, 1911; that there was no infringement of copyright; and that if he were wrong on those points, Mr. Czewowski was entitled only to 40s. nominal damages.

The main grounds of appeal were that the limitation in the 1911 Act had been repealed by the 1956 Copyright Act, and that the judge was wrong in holding that there had been no infringement of copyright.

The respondents had made no independent use of Mr. Czewowski's plans. It was not denied that there was copyright in them. It was debatable whether allowing the plans to go before a local authority constituted publication.

Giving judgment, the Court said that before carrying out Mr. Martyn's instructions, the respondents wrote to Mr. Czewowski explaining that proper plans were urgently needed. 'We are merely,' they wrote, 'acting as draughtsmen, and do not desire to interfere in any way in the relationship between Mr. Martyn and yourself. Our own charges will be related to our actual costs.' That was a sensible letter, and the appellant might well have been quite pleased that his unfortunate client (Mr. Martyn) would by this means achieve the object he had in view. Mr. Czewowski's claim was not one which, on merits, had a great deal to commend it.

On the evidence, even if section 10 of the 1911 Act applied, albeit, by only a matter of hours, the limitation did not apply.

Reproduction by the respondents of the plans did constitute an infringement of copyright, but the Court was not satisfied that putting the plans before the local authority constituted publication. Mr. Czewowski was entitled to damages for the infringement, but the Court agreed with the judge that they should be only nominal.

The County Court judgment was accordingly set aside and judgment for the appellant for 40s. substituted. It was directed that the appellant should have costs of the County Court proceedings up to the time of a payment-in by the respondents. No order was made as to the costs of the appeal. (THE ESTATES GAZETTE, 25 April 1959.)

Correspondence

FARM BUILDINGS CERTIFIED BY PRIVATE ARCHITECTS

The Editor, R.I.B.A. Journal

Dear Sir,—We were rather surprised to learn from the article 'A Survey of Private Architectural Practice' appearing in the April JOURNAL, that during the years 1955-57 as much as 7 per cent of all farm-building work was designed—let alone certified—by private architects. On what basis was the total volume of farm-building work calculated?

We have recently surveyed new buildings erected during the period 1951-58 on approximately 250 farms in the East Midlands. About 10 per cent of these buildings were stated by their owners to have been designed by architects either in private practice or employed by Government Departments or local authorities. However, further inquiries showed that in many cases the professional description had been applied to—among others—a representative of a cow-house equipment firm, a R.D.C. sanitary inspector, and a builder's assistant in his private capacity. The buildings which we surveyed were almost invariably 'purpose-designed, one-off' jobs, and were built to house dairy cattle in cowsheds or yards. This combination of circumstances suggests a much greater opportunity than occurs in much farm building for the employment of an architect's skill. For example, during the period 1951-55 the plans approved by local authorities in the East Midlands for farm storage buildings (a category which includes a high proportion of Dutch barns, implement sheds and other standard manufactured buildings) were numerically nearly as great as approved plans for livestock buildings of all types. No account can be taken of farm buildings whose plans are not submitted to local authorities and these are probably numerous.

From this information we might have hazarded a guess that perhaps 3 per cent of all farm-building work had been certified by private architects and we shall be interested to see what evidence can be

produced to support the higher proportion of 7 per cent given in the article.

We agree with the suggestion that there is scope for extending the services of the architect in the field of farm building, but our experiences lead us to believe that it is not a field where the architect in general private practice can safely wander. This is because he lacks the requisite specialist knowledge of farming and farm management.

(i) Each farm is a highly individual and usually small-scale business enterprise. The farmer often lacks the managerial skills to fully comprehend his own building needs. An architect will therefore often find that he has to formulate his own brief, and for this more than a passing knowledge of agriculture will be required:

(ii) Despite the way-of-life tradition, the aim of any genuine farmer must be to obtain the maximum net income from the farm as a whole. Investment in farm buildings is unlikely if the return on the farmer's capital can be bettered (as it often can) by investment in, for example, livestock, equipment or fertilisers.

Some buildings are essential on most farms; the architect advising on a new project will be expected to provide functional perfection at absolute minimal cost. Good appearance is something the architect will endeavour to provide at the same time, but it is a quality few farmers will appreciate, and one which fewer still will afford. Our appraisal of many of the architect-designed farm buildings we have surveyed is that they are well built and of better than average appearance—but a distinct liability to the farm as a business.

Yours faithfully,

PETER MANNING [4]
K. A. INGERSENT

[The total volume of farm-building work was taken from the Government's Blue Book on National Income and Expenditure (Table 60). This gives the value of the 'gross fixed capital formation' by agriculture on buildings and works as an annual average of £27 million for the three years 1955/56/57.

Virtually all of this is thought to be on 'buildings' as opposed to 'works'. The estimated value of farm buildings designed and certified by private architects, as shown from the Institute's sample inquiry was an annual average of £2 million for the same period, which represents 7 per cent of the total. The inquiry also showed that about one firm of private architects in ten undertook some farm-building work, although the volume of such work handled by each firm was almost invariably small, averaging less than £5,000 of work certified a year.—Ed.]

ANNUAL REPORT

Dear Sir,—I have just received the R.I.B.A. Annual Report for 1958, and I am shocked at the way this has been presented.

At first sight I thought it was a tea or rubber company's report. It is completely lacking in professional dignity; the author would appear to have lost sight of the fact that this Institute is incorporated under a Royal Charter. I cannot imagine for one

moment that the General Medical Council, or the Royal Institution of Chartered Surveyors would be so indifferent to the dignity of their respective professions.

As regards the contents, the type is too small and the coloured sheets are in the commercial category.

Yours faithfully,

KENNETH DALGLIESH [F]

Book Reviews

Acoustics Noise and Buildings, by P. H. Parkin and H. R. Humphreys. 10 in. 331 pp. +12 pls. Index. Faber & Faber. 1958 £3 10s.

'This difficult but fascinating subject' is a good description for the matter of *Acoustics Noise and Buildings*, which surely must become the standard work—at least for architects.

Humans are sensitive to temperature changes and react vigorously to achieve comfort. Techniques of building for satisfactory conditions of temperature are well known and practised widely. This may seem a strange way to start reviewing a book on sound, but the contrast between achieving comfort conditions for temperature and those for sound is significant. The ear is the measuring instrument for sound, extremely sensitive within a certain range. Yet humans seem to be able to endure, without conscious discomfort, the most appalling assaults on its delicate mechanism. The mechanism must be damaged, but because of the apparent willingness of people to endure noise and evil listening conditions in ill-considered buildings architects are not usually asked to remedy these defects. All the more reason for us, as architects, to provide buildings which achieve listening conditions capable of being consciously appreciated.

The reviewer is an architect and has read the book from one standpoint. In the preface Mr. Hope Bagenal says '... And so I hope that the broad survey ... will prove specially valuable to designers in that acid test of modern theory, namely usefulness for practical specifying.' The authors have not only done this admirably, but have done better—by explaining, in clear simple language, the nature of the essentially subjective phenomena, and the principles governing the control of sound in enclosed spaces. It is not easy for non-physicists to understand effects like flutter-echo and normal modes, but they can with this book. Of the ten chapters, 1 to 5 and 7 are primarily for architects to use—chapters 6 and 9 for the acoustics engineer. Chapter 8 on 'Sound Insulation and Noise Control Practice' includes material essential for architects and acoustics engineers. But in a book of this scope and clarity such brevity in describing the contents does it less than justice. It should be standard equipment, for use in every architect's office.

J. H. NAPPER [F]

Buildings in the Country, by Paul Mauger. 10 in. 240 pp. incl. illus. + front. Bibliog. Index. Batsford. 1959. £3 10s.

The intrusion into the countryside of new building types connected with scientific development for electricity and nuclear power, industry and commerce, car servicing and motels, to take a few current examples, cannot be viewed without apprehension. The aim of this book is to show how this type of architecture need not disfigure the landscape to any greater extent than that expressing more normal rural life and traditional pursuits, if sensitively designed and sited. To support the argument, Mr. Mauger methodically describes and analyses with the help of photographs and plans, selected examples of work carried out in Britain during the post-war years. His choice, reflecting personal visits, includes material which in many cases has not found its way into the architectural journals: reinforced by photographers' licence with regard to sunshine and cloud formations, it will serve as a reassuring tranquilliser to those inclined to see nothing but an all-pervading Subtopia.

R. E. E.

Building for Research. An ARCHITECTURAL RECORD Book. 12 in. (6) + 224 pp. incl. illus. Index. F. W. Dodge Corporation. 1958. \$9.50.

This book gives a useful survey of current American practice in laboratory design. The bulk of the book consists of plans and photographs with descriptive notes covering a number of recent American laboratory buildings. As might be expected the laboratories illustrated are rather uneven in quality, both as examples of laboratory planning and as architecture. Perhaps the most useful portion of the book is the first section containing three essays on laboratory design. The first of these essays by Charles Haines of Voorhees, Walker, Foley and Smith, is a first-rate account of current American practice which anyone designing a laboratory ought certainly to read.

By a process of trial and error, American designers have reached broad conclusions on laboratory design very similar to those reached in this country by the Nuffield Foundation's research team. In particular, the American practice of the use of deep laboratories, benching at right angles to the window wall and the acceptance of a service module as a limit to flexibility, coincide closely with British research findings, as discussed at the recent symposium held at the R.I.B.A.

RICHARD LLEWELYN DAVIES [F]

Scandinavian Architecture, by Thomas Paulsson. 10 in. xvi + 256 pp. incl. illus. + 120 pls., Bibliog., Index. Leonard Hill [Books]. 1958. £2 2s.

The whole world has learned about, and been impressed by, the modern architecture of the Scandinavian countries but very few people outside those countries know anything about its antecedents. Now a Swedish writer, critic and broadcaster on architect-

ture, town-planning and the visual arts, and son of Gregor Paulsson, has filled a void by providing a complete survey of the whole of Scandinavian architecture from prehistoric times until today—the first to have been published in English or, indeed, in any language. Since it covers a vast subject in its 250 pages and its 260 or so illustrations, it is inevitably selective and the greater part of the book deals with Sweden and Denmark—justifiably so because Finland and Norway were until recently comparatively isolated dependencies.

The author's approach is 'realistic'—that is to say historical, social-economic and political rather than aesthetic or technical—for, as he points out in his preface, the buildings and town-plans he analyses and classifies in his direct and somewhat impersonal style 'have been designed and built to serve as frames and forums for human life'. The work is intended to serve as 'a handbook, as complete as possible, addressed both to the person interested in architecture and the person interested in Scandinavia in general'. It reveals how close have been the cultural ties with the rest of Europe throughout the centuries and yet how each of the four countries has produced its regional idiosyncrasies; it reveals also that, in spite of such idiosyncrasies, enough similarities have been created by historical, geographical, linguistic and cultural ties between the four countries to have fully justified the writing of this single volume.

It is not a particularly beautiful book either in its writing or its presentation. But it is competent, intelligent, thorough, factual and well balanced. As such it is a valuable and welcome contribution.

UTVANDRARE

Looking at Architecture in Canada, by Alan Gowans. 8½ in. × 8½ in. 232 pp. incl. illus. Index. Oxford University Press, 1959. £3 3s.

Dr. Gowans has written an excellent book. It covers the whole of architectural development in Canada from the Indian shelter to 1957, and traces each major influence upon it. The illustrations, mostly photographs, serve the text very well.

Tracing influences must be prominent in any book on Canadian architecture, for Canada has not been at any time a source of strong original architectural thought. The interest is in seeing what happens or happened to 'styles' and lines of thought from elsewhere when they are used by a country in a dependent status or frame of mind. Canada is only now throwing off these conditions. Dr. Gowans makes the point, age-old of course, that original design impulses only come from societies with a strong sense of destiny and self-assurance; perhaps therefore Canada's contribution is to come.

Canada was French until 1760, and in the Province of Quebec it is still virtually so. The stock was Norman, a peasantry chosen for stability and conservatism, and its instinct was to go on building much as it had done in Normandy. Superimposed

upon it, however, were, in turn, the baroque and the classical tastes current among the governing groups sent out from France. Houses were peasant and picturesque, the churches and public buildings more sophisticated. Often the church interiors were very beautiful. After the life-lines to France were broken, 18th-century craftsmanship survived in isolation as a basis for design until the mid-20th century.

British classicism took over west and east of French Canada, drawing inspiration partly from England direct and partly via New England where it had flourished wonderfully. A few, but not a great many buildings of real charm were built. Later the full impact of Victorian Gothic and Richardsonian Romanesque hit the country, and its full-bloodedness found a sympathetic response. A few fine and vigorous buildings were built, among them some hotels magnificent enough to match the scale of grand natural settings. Some of the best classical and revival work of the 1920's was also done in Canada.

The strictly contemporary work illustrated does not make a strong impression, with one exception—the Shakespearian Festival Theatre at Stratford, Ontario, by Robert Fairfield, in 1957. It reflects a vigorously successful Canadian theatrical venture.

The book is well produced.

W. A. ALLEN [4]

Kensington, by William Gaunt. 8½ in. 152 pp. incl. illus. and front. Bibliog. Index. B. T. Batsford. 1958. 25s.

It is not hard to see why the author of *The Pre-Raphaelite Tragedy* and *The Aesthetic Adventure* is at home in the borough of Kensington, the Victorian suburb par excellence. Mr. Gaunt follows up his survey of *Chelsea* (Batsford 1954) with a narrative and pictorial impression of an intriguing area of London viewed in the light of the personalities who lived there. Although, as Mr. Gaunt points out, the royal (since 1901) borough possesses a palace, great house and famous square which precede Queen Victoria's reign, it is chiefly a Victorian creation and, now that anti-Victorianism has given way to curiosity and scholarly study, it is of particular interest in representing many different aspects of the aspirations of the 19th century: industrial (Great Exhibition), scientific (Exhibition Road area), artistic (the Melbury Road studio houses) and literary (Thackeray, Macaulay, G. K. Chesterton, Ford Madox Ford and many others lived there). The boundary has been expanded to include the South Kensington group of colleges and museums, although these are strictly speaking in the borough of Westminster, but no account of Kensington would be complete without them. It is fashionable to praise the Prince Consort and he gets full acclaim for having perpetuated the 'consistent expansion' of the South Kensington block. Even though he did not sense design as anything more than the application of ornamental

styles of the past to contemporary endeavour, his equal care for science and the arts has become a living force today. As a chronicler of the Victorians, Mr. Gaunt is throughout objective in his appraisal of their efforts, and even raises a critical voice against the clamour of enthusiasm for Colcutt's Imperial College tower. He views with equanimity the later and monstrous commercial expansion in the High Street, which now overshadows 'the square', its singularity as a piece of town in the midst of fields thus being entirely reversed. He delights in the new paint which has recently glossed over the artisan cottages off the Fulham Road and views it all as 'Growth and Expansion'. Three chapters are devoted to Holland House, Kensington Palace and the 'Old Court Suburb', of which Kensington Square was the nucleus, but there are many books (listed in the bibliography) which describe the earlier history of Kensington and the brilliant and intellectual salons of the House, the Palace and the Suburb, though none which says for whom the splendid mansions in Kensington Palace Gardens were built, mainly in the 1850s. We know that today they are chiefly occupied by embassies, and beyond the fact that No. 1 was designed by Philip Webb for the Howard family and No. 2 was occupied by Thackeray, Mr. Gaunt tells us nothing more of this surely unique display of Victorian opulence. These shortcomings apart, the chapters dealing with 'Kensington of the Victorians' and 'The Artists' Kensington' are undoubtedly the best.

The text is interspersed with photographs and the author's delicate sketches. Charming as these are, they do not take the place of an adequate map, which is essential to all books on topography. P. H.

Architects' Working Details, Volume 5. Edited by D. A. C. A. Boyne. 11½ in. 159 pp. incl. illus. Index. Architectural Press. 1958. £1 5s.

Like its predecessors, this book provides a selection of working details of distinguished recent buildings which have been illustrated in the *ARCHITECTS' JOURNAL*. Apart from the obvious advantages of having in the office a small library of readily accessible details, there is another point which deserves to be commended. The publishers have succeeded in designing a volume which really lies flat when open at any page. Many others have tried to achieve the same result, but with inconspicuous success.

The Golden Number, by M. Borissavliévitch. Lecture/Essays on Art, vol. 5. 7½ in. 91 pp. incl. illus. Tiranti. 1958. 15s.

Professor Borissavliévitch, architect and scholar, lecturer at many French seats of learning, contributes an essay on the Golden Section, approaching it as a phenomenon of aesthetics, rather than as a problem of geometry. The rather laboured translation confused and intimidated one reader. J. C. P.

Notes and Notices

NOTICES

Tenth General Meeting, Tuesday 16 June 1959, at 6 p.m. The Tenth General Meeting of the Session 1958-59 will be held on Tuesday 16 June 1959 at 6 p.m. for the following purposes:

To read the Minutes of the Ninth General Meeting held on Tuesday 26 May 1959; formally to admit new members attending for the first time since their election.

To read the report of the Scrutineers appointed to examine the voting papers for the election of Council for the Session 1959-60. In place of the Discussion on Professional Status the President will talk about his recent tour in Africa. (Light refreshments will be provided before the meeting.)

Session 1958-1959. Minutes IX. At the One Hundred and Twenty-first Annual General Meeting held on Tuesday 5 May 1959 at 6 p.m., Mr. Basil Spence, O.B.E., T.D., A.R.A., A.R.S.A., President, in the Chair.

The meeting was attended by about 135 members and guests.

The Minutes of the Seventh General Meeting held on Tuesday 7 April 1959 were taken as read, confirmed and signed as correct.

The following members attending for the first time since their election were formally admitted by the President: *As Associates*: J. G. Hives, S. O. Jayesimi, Geoffrey Marsh, Vivian Matthews, S. S. Tan.

The President formally presented the Report of the Council and Committees for the year 1958 and moved that the Report be received. Mr. Richard Sheppard, the Honorary Secretary, seconded the motion and a discussion ensued.

The motion having been put from the Chair, it was Resolved that the Report of the Council and Committees for the year 1958 be received.

On the motion of the President, a hearty vote of thanks was passed in favour of Mr. John Ratcliff, O.B.E. [F], and Mr. David Waterhouse [A] for their services as Honorary Auditors for the past year. Mr. John Ratcliff, O.B.E. [F], and Mr. David Waterhouse [A] were nominated for election as Honorary Auditors for the ensuing year of office.

The proceedings closed at 7.40 p.m.

Forms of Agreement for Use between a Building Owner and an Architect. Members are reminded that, on the recommendation of the Practice Committee, the Council have approved the publication of Forms of Agreement in the four following editions:

(i) *Form of Agreement for General Use between a Private Building Owner and an Architect or Firm of Architects;*

(ii) *Form of Agreement for General Use between a Building Owner (being a Statutory Authority) and an Architect or a firm of Architects;*

(iii) *Form of Agreement between a Local Authority and a Firm of Architects for Housing Work;*

(iv) *Form of Agreement between a Local Authority and a Firm of Architects for Multi-Storey Flats.*

In addition, on the recommendation of the Competitions Committee, the Council have approved a *Form of Agreement between the Promoters and a Firm of Architects appointed as the result of a Competition.*

The respective forms have been carefully designed to include all the essential points on

which a clearly defined agreement between a building owner and an architect is needed, and to omit many irrelevant and repetitive clauses which, in the experience of the Institute, are so frequently inserted.

The five documents are now available in printed form, and may be obtained on application to the Secretary, R.I.B.A., 66 Portland Place, London, W.1 (price 6d. per copy, inclusive of purchase tax). Postage 3d.

Members' Luncheon Room. A Member's Luncheon Room is now open on the 6th Floor and is run on a largely self-service basis. The price of luncheon for members and Students is 5s. and guests may be introduced. Luncheon service is available from Mondays to Fridays inclusive between 12 noon and 2 p.m. and there is a 'club licence'.

Luncheon vouchers, issued through Messrs. Luncheon Vouchers, Limited, will be accepted, as also will any vouchers issued privately by members in private practice to members or Students in their employment, if special arrangements are made.

Morning coffee and afternoon tea can be ordered. Pending the reinstatement of the Members' Room this service will be provided in the 6th floor Luncheon Room.

Members and Professional Affixes. The Council's attention has been called more than once to the practice among some members of adding a string of letters of doubtful value to the affix indicating membership of the Royal Institute on their letter paper.

This is a matter in which the Council obviously cannot dictate to members, and must trust to their good sense. It should be obvious, however, that the affix of a chartered body of high standing is weakened in effect by the addition to it of a string of other mysterious designations some of which probably indicate no more than the payment of an annual subscription.

R.I.B.A. Award for Distinction in Town Planning. The R.I.B.A. Award for Distinction in Town Planning is the only award in town and country planning bestowed by the R.I.B.A. It is by conferment only and is limited to Fellows, Associates and Licentiatees of the R.I.B.A. Outstanding work in the design and layout, not of individual buildings, but of groups of buildings will be recognised. The award will be made for actual planning work and while not primarily intended for housing layouts, such layouts of groups of buildings would not be excluded.

Recommendations are submitted to the Council by a Standing Committee set up for the purpose. Personal applications by candidates will not be entertained; the name of a candidate must be submitted by three or more sponsors, themselves members of the R.I.B.A., who will be required to submit details of the candidate's professional qualifications and experience and evidence of the candidate's actual planning work. Nominations may be made twice annually, on 1 March and 1 November, and must be addressed to the Secretary, R.I.B.A., 66 Portland Place, London, W.1.

Members upon whom the award has been conferred will be entitled to use the designation 'R.I.B.A. Award for Distinction in Town Planning' and it is advised that this should be used in full, or the initials 'Dist. T.P.' after the initials 'F.R.I.B.A.', 'A.R.I.B.A.', or 'L.R.I.B.A.', according to the class of membership to which they belong.

BOARD OF ARCHITECTURAL EDUCATION

R.I.B.A. Examination for the Office of Building Surveyor under Local Authorities. At the R.I.B.A. Examination for the Office of Building Surveyor under Local Authorities held on 29 and 30 April and 1 May 1959, ten candidates presented themselves, and the following were successful: Reginald Baldwin, Sidney Butterworth, Gerald Ivor Haynes, Frank Lawson, Harold Martin.

COMPETITIONS

Medical Teaching Centre, Cardiff. Last day for questions: 19 June 1959. Last day for submitting designs: 30 April 1960.

Full particulars were published in the JOURNAL for April, page 219.

Aluminium Street Lighting Columns. Last day for submitting designs: 12 noon, 1 July 1959.

Full particulars were published in the JOURNAL for April, page 219.

New Town Hall, Milngavie, Dunbartonshire. Last day for submitting designs: 30 June 1959.

Full particulars were published in the JOURNAL for March, page 182.

COMPETITION RESULT

Finchley Town Hall and Municipal Buildings. (Limited Competition).

Winners: Messrs. Lyons, Israel and Ellis [A.A.A.].

Other competitors: Mr. Philip Hepworth [F], Mr. Cecil Howitt [F], Mr. S. Rowland Pierce [F], Mr. R. H. Uren [F], Mr. E. Berry Webber [F].

ALLIED SOCIETIES

Changes of Officers and Addresses

Aberdeen Society of Architects. President, D. W. Innes [F].

Berks, Bucks and Oxon Architectural Association. President, as from 1 July 1959, David Beecher [F]. Hon. Secretary, as from 1 July 1959, Kenneth V. Austin [A], Cornerways, Bayworth, near Abingdon, Berks.

Devon and Cornwall Society of Architects. *Truro Branch.* Chairman, F. K. Hicklin [A]. Hon. Secretary, J. R. Coward [A], 'Havrak', Feock, Truro, Cornwall.

Essex, Cambridge and Hertfordshire Society of Architects. President, Stanley E. Bragg [F]. Hon. Secretary, J. E. Hammond [L], Lloyds Bank Chambers, Main Road, Gidea Park, Romford, Essex. *Cambridge Chapter.* Hon. Secretary, J. B. Tunstall [A], Quoin Cottage, 17 Home Close, Histon, Cambridge.

Gloucestershire Architectural Association. President, as from 1 July 1959, J. L. Jones [L]. Hon. Secretary as from 1 July 1959, T. F. Lawson, F.R.I.C.S. [A], Norwich Union Chambers, Clarence Street, Gloucester.

Hampshire and Isle of Wight Architectural Association. President, T. A. Collins [F].

Inverness Architectural Association. President, Ian A. Munro [F].

Manchester Society of Architects. President, as from 23 June 1959, Professor R. A. Cordingley, M.A., M.T.P.I. [F].

Northamptonshire, Bedfordshire and Huntingdonshire Association of Architects. President, as from 1 July 1959, J. A. Wardley [A]. *Bedfordshire Branch.* Chairman, J. E. Chipperfield [A]. Hon. Secretary, G. W. King [A], 5A Harpur Street, Bedford.

Northern Architectural Association. Cumberland Branch. Chairman, Arthur Lumb, M.B.E. [A]. Hon. Secretary, B. I. R. Bird [A], City Architect's Department, Civic Centre, Birmingham.

Nottingham, Derby and Lincoln Society of Architects. President, as from 1 July 1959, E. H. Ashburner, B.Arch. [F].

South Wales Institute of Architects. Western (Swansea) Branch. Chairman, as from 1 July 1959, R. B. Padmore [A].

Stirling Society of Architects. President, Alexander Jamieson Smith [A].

Suffolk Association of Architects. President, as from 30 June 1959, Murray S. Hare [A]. Hon. Secretary, as from 30 June 1959, A. E. Wallis [A], 72 Elmhurst Drive, Ipswich, Suffolk.

York and East Yorkshire Architectural Society. President, Arthur Lazenby [A].

Wessex Federal Society of Architects. President, as from 1 July 1959, E. F. Tew [F].

West Yorkshire Society of Architects, Wakefield Branch. Chairman, Harry Judson [A]. Hon. Secretary, R. J. Eves [A], Tickencroft, Forest Moor Road, Knaresborough, Yorkshire.

Transvaal Provincial Institute of Architects. President, Mrs. D. E. Greig, B.Arch. [A].

Royal Victorian Institute of Architects. President, Professor B. Bannatyne Lewis, Ph.D., M.A., B.Arch. [F].

Manchester Society of Architects, Annual Dinner. The Society's annual dinner was held on 11 May at the Masonic Temple, Manchester, with the President, Mr. R. M. McNaught, J.P., F.R.I.A.S. [F], in the chair. The R.I.B.A. was represented by Mr. Norman H. Fowler, Vice-President, and the Secretary, Mr. C. D. Spragg, C.B.E., and among the guests were the Lord Mayor of Manchester, Alderman James E. Fitzsimons, J.P., the Lady Mayoress, the Bishop of Manchester, the Rt. Rev. W. D. L. Greer, and Mr. J. H. Holden, A.R.C.A., A.T.D., R.B.S.A., Principal, Regional College of Art.

Mr. H. M. Fairhurst, M.A. [A], proposed the toast of the R.I.B.A. to which Mr. Fowler responded and the Lord Mayor replied to the toast of the City of Manchester proposed by Mr. McNaught. Mr. W. A. Gibbon, M.A. [A], the Society's Assistant Honorary Secretary, proposed the toast of the Guests and Mr. Holden responded.

During the evening a suitably inscribed silver tankard (George II Newcastle Isaacs Cookson 1752) was presented to Mr. Spragg by Sir Hubert Worthington, O.B.E., R.A., M.A. [F], on behalf of the Council and members of the Manchester Society of Architects. Mr. Spragg briefly expressed his thanks for this generous gift.

Norfolk and Norwich Association. Biennial Dinner. The Association's biennial dinner was held on 1 May at the Royal Hotel, Norwich. The President, Mr. C. J. Tomkins [F], was in the chair and the R.I.B.A. was represented by the President, Mr. Basil Spence, O.B.E., A.R.A., A.R.S.A., and the Secretary, Mr. C. D. Spragg, C.B.E. Among the guests were Mr. Geoffrey Rippon, M.P., the Lord Mayor of Norwich, Mr. Norman Tillet, the Bishop of Norwich, the Rt. Rev. P. M. Herbert, and the High Sheriff of Norfolk, Mr. R. Q. Gurney.

Mr. Geoffrey Rippon proposed a toast to the R.I.B.A., to which Mr. Spence replied, and the Lord Mayor responded to the toast of the Guests proposed by Mr. Tomkins. A toast to Mr. Tomkins was proposed by Mr. R. O. Bond [F].

Notes from the Minutes of the Council

MEETING HELD ON 5 MAY 1959

Appointment of R.I.B.A. Representatives

(a) **Darlington College of Further Education: Board of Governors.** T. Victor Deas [A] (re-appointment).

(b) **Southend-on-Sea Municipal College: Architecture, Surveying and Building Advisory Committee.** P. F. Burridge [F] (re-appointment).

(c) **Eleventh International Hospital Congress, Edinburgh, 1-6 June 1959.** John Holt [F] in place of Lieut.-Colonel D. Polson Hall [F].

(d) **British Waterworks Association: Standing Committee on Water Regulations.** Arthur H. Ley [F] (re-appointment).

(e) **Museums Association: Standing Joint Committee on Museum Design.** John Bickerdike [A], A. G. Sheppard Fidler [F] (re-appointments).

(f) **Ipswich Civic College: Council for Art.** Birkin Haward [A] (re-appointment).

(g) **B.S.I. Committees. Bitumen Felt Roof Coverings—Revision of CP. 144.101.** Charles Cuthill [A], B/95—Standardisation of Access Fittings for Chimneys and other high Structures. F. H. Heaven [A].

The Royal Academy. The congratulations of the Council were sent to the Lord Methuen [Hon. A] on his election as a Royal Academician and to Mr. Raymond Erith [F] on his election as an Associate of the Royal Academy.

The Honorary Corresponding Membership. The following have accepted the Council's nomination for election as Honorary Corresponding Members: Luis Cristiano da Silva, Professor of Architecture in 'Escola Superior de Belas Artes', Lisbon. Nikola Dobrovic, Professor of the Faculty of Architecture, Belgrade. Hassan Mitwally el Atabani, Chief Architect, Ministry of Works, Khartoum, Sudan. Luis de Guimaraes Lobato, Civil Engineer, Lisbon. Carlos Raul Villanueva, Professor of the Faculty of Architecture, University of Caracas. Faruk Sureyya Akcer, A.A.Dipl., City Architect and Director of Town Planning, Istanbul. Diego C. Carbonell, Professor of Architectural Design, University of Caracas. Dr. Takeo Satow, President of the Architectural Institute of Japan. Dr. Kenzaburo Takeyama, Building Research Institute, Ministry of Construction, Tokyo.

Structural Damage to Cathedrals caused by Traffic Vibration. On the recommendation of the Science Committee, it was agreed to make arrangements during the 1959-60 Session for

a meeting to be attended by invited representatives to study the question of possible damage being caused to cathedrals and other ancient buildings by traffic vibration.

The American Institute of Architects. It was reported that the President, R.I.B.A., Mr. Basil Spence, had been elected an Honorary Fellow of the American Institute of Architects.

Membership. The following members were elected: as Honorary Associate 1; as Fellows 10; as Associates 68.

Students. 33 Probationers were elected as Students.

Applications for Election. Applications for election were approved as follows: *Election 7 July 1959:* as Honorary Corresponding Members 9; as Associates 165.

Applications for Reinstatement. The following applications were approved: as Fellow: George Edward Bright; as Associates: Elwyn Leighton Black, Thomas Anthony Snow; as Licentiate: James Watson.

Resignations. The following applications were accepted with regret: Herbert Kitchener Calder [A], Leonard John Curtis [A], Edward Henry Eames [A], Richard Carton Tickell [A], Walter Phillips Wynne Williams [A].

Applications for Transfer to Retired Members' Class under Bye-law 15. The following applications were approved: as Retired Fellows: Albert Edward Bullock, Albert Walter Moore; as Retired Associates: Harold Walter Humphrey, Mrs. Margaret Anne de Quincey Leuchars; as Retired Licentiate: David Charles Perrett.

Obituary. The Secretary reported with regret the death of the following members: Sir George Lionel Pepler, C.B., F.R.I.C.S., P.P.T.P.I. [Hon. A], Karo Semenovitch Alabian [Hon. Corr. Member], Frank Lloyd Wright [Hon. Corr. Member], Charles Herbert Aslin, C.B.E. [F], Samuel Beverley [F], Ernest Seymour Clarke [F], Frank John Osborne, M.C. [F], Paul John James Panter [F], Henry William Tompkins [F], Owen Hanworth Cockrill [A], Cyril Reginald Edward Flisher [A], Charles William Jackson [A], Neville John Pavey [A], Richard Thorburn [A], Eric Robert Towler [A], Norman Gregory Harland [L], John Barlow-Smith [Ret'd. L].

By resolution of the Council the sympathy and condolences of the Royal Institute have been conveyed to their relatives.

GENERAL NOTES

Leverhulme Scholarship in Architecture, 1959. The Leverhulme Scholarship, tenable at the Architectural Association School of Architecture, London, value £2,500, which includes payment of fees and maintenance for five years, has been awarded this year to Mr. Francis C. Duffy (St. Cuthbert's Grammar School, Newcastle upon Tyne), 69 Durham Road, Blackhill, Consett, Co. Durham.

National Conference on Play Leadership. The National Playing Fields Association, in conjunction with the City of Liverpool and the Liverpool Council of Social Service, is holding a National Conference on Play Leadership at St. Katharine's Training College, Liverpool, from 2-4 July.

The subjects to be discussed include: 'The Functions and Applications of Play Leader-

ship'; 'Physical Recreation for Park and Play ground'; 'Playground Planning on New and Existing Housing Estates'; 'The Use of Leisure'; and 'Co-operation and Responsibility—Statutory and Voluntary'.

Among the speakers will be Dr. R. Bradbury [F], City Architect and Director of Housing, Liverpool; Miss Sylvia Crowe, P.I.L.A.; Mr. H. S. Magnay, M.A., Director of Education, Liverpool; Mr. H. J. Taylor, Director of Borstal Administration in the Prison Commission, and other experts. It is hoped that Mr. Willy Kooy of the U.N. Technical Assistance Administration will speak on 'Developments in Europe'.

The Ministry of Housing and Local Government has sanctioned expenses under the proviso to Section 228(1) of the Local Government Act, 1933, to those local authorities making individual application for not more than two delegates, a member and an officer.

Further particulars are available from Mr. W. D. Abernethy, Secretary, Children's Playground Committee, The National Playing Fields Association, 71 Eccleston Square, London, S.W.1.

The Institute of Advanced Architectural Studies. The Institute's summer programme is as follows: From 25 July to 8 August there will be a Summer School for Architectural Students, open to students from architectural offices and recognised schools of architecture, a Post-graduate Seminar on Architectural Design, representing a new and original approach to advanced architectural design for young architects who have qualified during the last few years and who are aware that significant developments in design are taking place, and Form 59, a new course on contemporary architectural design and theory, designed primarily for students at or approaching intermediate level, although more advanced students will also be considered for admission.

There is a Course on Town Planning Design, designed for planning students working in offices and studying part-time for the T.P.I. examinations, and a Course on Landscape Design for students of architecture, landscape and town planning, from 25 July to 15 August. From 25 July to 22 August there is a Course on Architectural Design, designed to meet the needs of architectural students who are working in offices and studying part-time for the R.I.B.A. examinations and providing training under studio conditions in various aspects of contemporary architectural design; and there are two Summer Schools from 22 to 29 August on 'Planning the Modern House and Garden', intended for people who contemplate building or buying a house, the syllabus of which will cover all aspects and stages of this subject, including the conversion of old houses, and 'A History of Railway and Canal Buildings', showing the contribution of the architect to the growth of the British railway and canal systems.

Inquiries should be addressed to the Secretary, Mr. J. P. West-Taylor, Institute of Advanced Architectural Studies, Micklegate, York.

International Centre for Studies of Architecture 'Andrea Palladio'. A new international centre for the studies of architecture was inaugurated at Vicenza last month. It bears the name of 'Andrea Palladio' on the grounds that he was born there in 1508. Padua has also claimed to be Palladio's birthplace, so that presumably the point has been settled in favour of Vicenza.

It is the aim of the new centre to promote the study of Palladio, but its Statute allows for a much wider field, including the study not only of Venetian architects but also of Italian and foreign architects of all ages and trends, and envisages the possibility of an 'International Prize' in acknowledgment to, or as an encouragement for, the nobility and humanity of the art of building.

The centre will also organise studies in subjects to be fixed year by year by its Scientific Council, and is to promote historical and scientific research, compile a film library and drawings collection, mainly of Palladian subjects. Courses of lectures are being organised, that for this year will be from 27 August to 16 September, to be held at the Villa Cordellina. The complete charge for three weeks' residence is L.1t.50,000. Scholarships to both Italian and foreign students and graduates have been made available.

The Chairman of the Scientific Council of the International Centre is Professor Rodolfo Pallucchini, and its members include Professors Rudolf Wittkower and Bruno Zevi.

A leaflet can be seen at the R.I.B.A. in the Drawings Collection of the Banister Fletcher Library.

Further information is obtainable from: Segreteria del 'Centro Internazionale di Studi di Architettura—Andrea Palladio', Basilica Palladiana, Vicenza.

R.I.B.A. Cricket Club

R.I.B.A. v. Vitruvians. 12 May. The R.I.B.A. batted first and declared at 181 for 4 (W. E. A. Beeston 82 n.o., P. Aldis 50). The Vitruvians made 135 (J. Aitchison 33; R. C. Hurst 30; J. Young 29). For the R.I.B.A. D. L. Robinson took 5 for 33 and C. E. Townrow 3 for 26.

Obituaries

Charles Herbert Aslin, C.B.E. [Past President], died on 18 April 1959, aged 65.

Mr. Aslin began his architectural training at Sheffield where he was articled to a local architect, studied at the Sheffield University Department of Architecture, and where, after military service in the First World War, he obtained a post with the Sheffield City Architect. In 1922 he became Architect to the County Borough of Rotherham and from 1926 to 1929 was Deputy County Architect of Hampshire. After 16 years as Borough Architect of Derby, Mr. Aslin was appointed County Architect of Hertfordshire in 1945. He retired from this position in December last year.

At Derby his office carried out work for all the committees of the local authority and included schools, hospitals, police buildings and housing. One of his tasks there was to carry out the central improvement scheme, which consisted in clearing a large area of the banks of the River Derwent and building there a bus station, river gardens, open markets, police courts and new municipal offices.

Under his leadership at Hertford great advances were made by Herts County Council in their post-war building programme, particularly in school construction, in which Mr. Aslin made extensive use of prefabricated units to overcome the acute shortage of site labour, steel and timber, which proved remarkably successful, being both inexpensive and quick to erect and yet not temporary. In 1955 his hundredth new school was opened by the Minister of Education. The system of construction aroused great interest abroad and has been extensively used all over the country. Mr. Aslin also pioneered in the use of colour in schools. In 1951 he was awarded the R.I.B.A. Architecture Bronze Medal in the area of the Essex, Cambridge and Hertfordshire Society of Architects for Templewood School, Welwyn Garden City.

Mr. Aslin was Vice-President R.I.B.A. from 1948 to 1950, from 1952 to 1954, and President from 1954 to 1956. He had also served on the Council and numerous committees, including the Salaried and Official Architects Committee, and was its first Chairman, the Finance and House Committee, the Executive Committee, the Practice Committee, the Professional Conduct Committee and the U.K. Committee of the International Union of Architects. He was one of the Institute's representatives on the Joint Consultative Committee of Architects and Builders. Mr. Aslin was President of the Nottingham, Derby and Lincoln Society of Architects from 1941 to 1943 and a former Council member of A.R.C.U.K. He was an Honorary Fellow of the American Institute

of Architects, and a member of the Institution of Structural Engineers since 1925. He was awarded the C.B.E. in 1951.

Mr. Stirrat Johnson-Marshall, C.B.E. [4], writes:

'Charles Herbert Aslin belonged to the generation who, while still very young, served a hard apprenticeship to life in the First World War. This, it can no doubt be claimed, helped to develop early the qualities of sympathy, understanding and humility which were such strong aspects of his character.

'From a fusion of experienced wisdom and his spirit of adventure sprang the unique contribution which he made to architecture since 1945. It was in Hertfordshire and in the sphere of school building in particular that his rare combination of personal charm and practical vision enabled him to attract to his office, and to inspire, young men dedicated to the production of live architecture through public service. Charm alone was not sufficient for Herbert Aslin; he was a Yorkshireman and very proud of it, and he exalted from those in whom he put his trust allegiance, devotion and a high sense of service.

'It is impossible to think of Herbert Aslin without his wife who identified herself with his interests and served them devotedly. They were inseparable, generous and boundlessly hospitable. Their home was home also to all who worked with him and for architects from many countries, in addition to their wide circle of friends.

'While President of the R.I.B.A. he encouraged in its early stages, and with wise discrimination, much of the thinking that is now producing great changes in the structure of the profession. He was particularly concerned to maintain unity at a time when there was a danger of separation between the interests of private and salaried architects.

'It was against the more informal background of gatherings at home and in his office that Herbert Aslin was happiest and most at ease. Essentially liberal in outlook, and with a generous tolerance of the young, he could collect around him those who showed enthusiasm and imagination, and in spite of his great personal reserve, could always incite their help and co-operation. In this respect he was a distinguished leader of men who usually managed to create the conditions in which they could best make their individual contributions.

'He was a staunch supporter of the R.I.B.A. and also of the A.B.S. whose affairs he had very much at heart.'

Mr. Matthew Wallis [4] writes:

'As a one time "Hertford Boy" I should like to contribute a few words expressing a very personal sense of loss, which so many must be feeling all over the world at Mr. Aslin's death.

'Much will be said about his architectural achievements, but I wish to say a few words about C.H.A. as a chief. He was a big man, with very great quality of understanding, and knew always how to strike a balance between the responsibility of his staff to their work and their private life and ambitions. He understood that all men search for the broadest way of life and self-expression within their grasp, and concerned himself in helping each one in his personal development. He knew how to overlook faults and weaknesses and I think valued loyalty above all other virtues, himself being always a most loyal chief and friend.

'As a Pole who has come to make a home in this country, I have had special reasons for gratitude for his encouragement, guidance and interest in my life. I know I am only one of many younger men who mourn today the loss of a counsellor and a friend.'

Felix J. Samuely, B.Sc.(Eng.), M.I.C.E., M.I.Struct.E., died on 22 January 1959.

H. V. L. writes:

'F. J. Samuely was born in Vienna in 1902; he studied in Berlin where he obtained his degree of Dipl. Ing. He returned to Vienna for a year to work in an architect's office and then worked in Berlin for a number of years. He came to England just over 25 years ago with little money but with an unbounded enthusiasm, and after a short time, with a firm of contractors, he started his practice as a consulting engineer. Of his early work three buildings could be mentioned where his contribution to the structural design had a profound effect on the planning and appearance of the buildings themselves—the Bexhill Pavilion, Simpson's, Piccadilly, and Palace Gate have all welded steel frames combined with reinforced concrete.

'Since 1945 he has acted as engineer for a large number of schools, flats, offices and factories in which precast and prestressed concrete construction have been used, combined with normal steel and sometimes prestressed steel space frames.

'The Festival of Britain, 1951, South Bank Exhibition, gave full opportunity to his structural genius where in consultation with the architects concerned, he was responsible for the Pavilions of Industry and Transport and the Skylon, generally regarded as being the most dramatic structures of the Exhibition. His more recent work includes the United States Embassy in London, many multi-storey blocks of flats for L.C.C. and other local authorities, hospitals, schools and technical colleges.

'Always keen to develop new materials and to find new ways of using old ones, his investigations into timber technology were used to the full in the design of the crystalline spires of the Government Pavilion at Brussels Exhibition. His originality of thought and the kindly way this was placed at the disposal of his many friends, here and overseas, makes his loss the more acute. Hundreds of students who attended his lectures in structural engineering at the Architectural Association School and those architects and contractors who had the opportunity of working with him, will be grateful that this great pioneer has inculcated into the partners in his firm a way of life which, by reason of his great personality and inspiration, will live long.'

Membership Lists

ELECTION: 5 MAY 1959

The following candidates for membership were elected on 5 May 1959.

AS HON. ASSOCIATE (1)

Epstein: Sir Jacob, K.B.E., D.C.L., LL.D.

AS FELLOWS (10)

Bee: Philip Raymond, M.T.P.I. [A 1940].
Broadbent: Ronald [A 1938], Sheffield.
Cross: Arnold [A 1948], Liverpool.
Ford: Harry Leslie James, A.M.T.P.I. [A 1939].
Muston: George Ronald Colin [A 1950], Wellington, New Zealand.
Reliach: Alan, D.A.(Edin.), A.M.T.P.I. [A 1934], Edinburgh.
Taylor: Eric [A 1950], Kuala Lumpur, Malaya.
Ward: Donald Leslie [A 1949], Zaria, Nigeria.
Watson: James Fletcher, J.P. [A 1904], Norwich.
 and the following Licentiate who is qualified under Section IV, Clause 4(c)(ii) of the Supplemental Charter of 1925:
Morley: Norman Eyre, D.S.C.

AS ASSOCIATES (68)

Abbott: David John, Manchester.
Adcock: Anthony Charles Francis, Dip.Arch. (The Polytechnic).
Allen: Harold Desmond, Dip.Arch.(Nottm.), Scunthorpe.
Anderson: Morris, Inverness.
Arthur: Malcolm Irvine, D.A.(Dundee), Perth.
Balodis: Janis, Manning, Western Australia.
Bennett: John Harold, Godalming.
Brown: David Leslie, Dip.Arch.(Sheffield), Sheffield.
Browning: William Henry Graham, B.Arch. (Wales), Bridgend.
Burris: Rodney Harrie, Dip.Arch.(Cardiff), Abercarn.
Carr: John Wrangham, Dip.Arch.(Manchester), Leamington Spa.
Carver: Julian Robert, Elstree.
Chan: Fook Ming, Dip.Arch.(The Polytechnic), Penang, Malaya.
Cheang: Kok Cheow, Dip.Arch.(Birm.), Kuala Lumpur, Malaya.
Cotton: John Keith, Dip.Arch.(U.C.L.).
Davis: John Norman, Birmingham.
Easton: John Samuel, Steamer Point, Aden.
Ellis: John Idris, Dip.Arch.(Cardiff), Belfast.
Eyres: Norman Douglas, Steyning.
Fowler: John David, Dip.Arch.(The Polytechnic), New York, U.S.A.
Fraser: Alan James William, Dip.Arch.(Abdn.), Glasgow.
Gordon: Ronald, Dip.Arch.(Leics.), Peterborough.
Gosling: Allan Gladstone, Dip.Arch.(Birm.), Preston.
Grimsditch: Gerald Stephen, Dip.Arch.(U.C.L.).
Hamilton-Fletcher: Simon Alexander, B.A.(Arch.) (London), Richmond, Surrey.
Hennessy: Brian Anthony, Dip.Arch.(The Polytechnic).
Hodgson: (Miss) Jennifer Catharine, Dip.Arch. (The Polytechnic), Ashtead.
Holdsforth: Harold, Dip.Arch.(Sheffield), Sheffield.
Hope: John Bradshaw, M.A.(Cantab.), B.A. (Arch.)(Manchester), Manchester.
Kay: David Gerald, Dip.Arch.(The Polytechnic).
Kelly: (Miss) Maureen, Dip.Arch.(Cardiff), Penarth.
Koulermos: Panayiotis Georgiou, Dip.Arch.(The Polytechnic).
Lawson: Malcolm, Dip.Arch.(Leeds), Harrogate.
Lee: David, Dip.Arch.(Birm.), Birmingham.
Lees: Kenneth, Dip.Arch.(Nottm.), Nottingham.
Mincher: Donovan Ross, Dip.Arch.(Birm.), Cannock.
Mitchell: Kenneth A., Karachi, Pakistan.
Monaghan: Leslie Wilmot, Ipswich.
Monroe: (Mrs.) Peggy Ann, Dip.Arch.(Cardiff), Ipswich.
Monroe: William Stuart, Dip.Arch.(Cardiff), Ipswich.
Moore: Geoffrey Edward, Dip.Arch.(Birm.), Peterborough.
Moorhouse: David Ralph, Dip.Arch.(Manchester), Kendal.
Morte: Philip Austen, Dip.Arch.(Sheffield), Sheffield.
Morton: Leon Burles, B.A.(Arch.)(Sheffield), Crawley.
Moulton: (Miss) Rachel Hope, B.Arch.(L'pool.), Bromley.
Napiorkowski: Ryszard Tomasz, Exeter.
Pearson: Charles Michael, B.A.(Arch.)(Manchester).
Pickwick: John Howard, Dip.Arch.(The Polytechnic).
Ratcliff: Christopher John Raven, B.A.(Cantab.), Gravesend.
Ratcliffe: James Terance, Dip.Arch.(Manchester), Bury.
Reed: Peter Arthur, B.A.(Arch.)(Manchester).
Richardson: Anthony Pearl, B.Arch.(L'pool.), Dedham.
Robins: Gordon William, A.A.Dipl.
Rogers: Graham John, Dip.Arch.(Birm.), Stourbridge.
Russell: Barry.
Scott: Roger Malcolm, Dipl.Arch.(U.C.L.), Cambridge.
Simpson: Eric Wilton, Dip.Arch.(Sheffield), Buxton.
Singh: Sudarshan, Nairobi, Kenya.
Smith: Ivor Stanley, M.A.(Cantab.), A.A.Dipl. Sheffield.

Smith: Peter John, Dip.Arch.(Birm.), Birmingham.
Stephenson: Gordon, Dip.Arch.(Sheffield).
Thorpe: Philip Roger, Dip.Arch.(Sheffield), Bakewell.
Vaughan Russell: (Miss) Daphne, Richmond, Surrey.
Wallwork: John Stuart, Dipl.Arch.(Leeds), Harrogate.
Ward: Terence Harold, Dip.Arch.(Manchester), Thornton-Cleveleys.
Watts: Kenneth George, Tonbridge.
Williams: Neville Cunham, B.Arch.(Wales), Penarth.
Wong: Hong Yuen, Hong Kong.

ELECTION: 7 JULY 1959

An election of candidates for membership will take place on 7 July 1959. The names and addresses of the candidates, with the names of their proposers, are herewith published for the information of members. Notice of any objection or any other communication respecting them must be sent to the Secretary, R.I.B.A., not later than Friday 19 June 1959.

The names following the applicant's address are those of his proposers.

AS HON. CORRESPONDING MEMBERS (9)

Aker: Faruk Sureyya, A.A.Dipl., City Architect, Istanbul; President of the Turkish Chamber of Commerce (Istanbul Section). Director of Town Planning, City of Istanbul; Director of Housing Department. 21/1 Yeni Fikir Sokak, Moda, Istanbul, Turkey. Proposed by the Council.
Carbonell: Diego C., B.Arch.(Mass.Inst.Tech.), Edificio Vica, Ave. Ppal., Urbanizacion Las Mercedes, Caracas, Venezuela. Proposed by the Council.

da Silva: Luis Cristino, Professor of Architecture in 'Escola Superior de Belas Artes' in Lisbon, Avenida Alvares Cabral 67, Lisbon, Portugal. Proposed by the Council.

Dobrovic: Nikola, Professor of the Faculty of Architecture, Belgrade, Stevana Sremca 6/III, Belgrade, Yugoslavia. Proposed by the Council.

el Atabani: Hassan Mitwally, Chief Architect, Ministry of Works, Khartoum, Sudan. Proposed by the Council.

Lobato: Luis de Guimaraes, Civil Engineer, Calçada Palma de Baixo 4, Lisbon, Portugal. Proposed by the Council.

Satow: Dr. Takeo, 13-3, 1-chome, Motomachi, Bunkyo-Ku, Tokyo, Japan. Proposed by the Council.

Takeyama: Dr. Kenzaburo, Building Research Institute, Ministry of Construction, Japanese Government, 1644, 2-chome, Nogata-cho, Nakano-ku, Tokyo, Japan. Proposed by the Council.

Villanueva: Carlos Raul, Av. Los Jabillos Qta., 'Gaoma' La Florida, Caracas, Venezuela. Proposed by the Council.

AS ASSOCIATES (165)

The name of a school, or schools, after a candidate's name indicates the passing of a recognised course.

Adkin: George, (Special Final), 10 Templestowe Drive, Whitkirk, Leeds, 15. D. A. Fowler, J. L. Crowther, F. L. Charlton.

Albiston: Anthony William, (Special Final), 15 Winton Crescent, Croyley Green, Rickmansworth, Herts. Paul Nightingale, Edwin Rice, Dr. R. Herz.

Aldrich: Brian John, (Final), 80a Melton Road, West Bridgford, Nottingham. Norman Summers, L. W. Nunn, Ernest Frear.

Bailey: James, (Final), 3 Arthur Road, Shirley, Southampton. J. B. Brandt, Ernest Bird, E. M. Galloway.

Beighton: Graham, Dip.Arch.(Sheffield), (Univ. of Sheffield, Dept. of Arch.), 154 Dobbin Hill, Sheffield, 11. Prof. Stephen Welsh, H. B. Leighton, Harold Conolly.

Bennett: John David, Dip.Arch.(The Polytechnic), (The Poly., Regent Street, London: Sch. of Arch.), 2 Hill Court, 953 Harrow Road, Sudbury, Wembley, Middx. Allan Johnson, J. S. Walkden, J. S. Foster.

Benstead: Vernon Stuart, (Final), 'Daviston', 55 Clatterford Road, Carisbrooke, I.O.W. A. C. Townsend, Vernon Aldridge, P. McG. Corsar.

Binnington: John Rawdon, (Final), 5 Park Avenue, Withernsea, Yorkshire. J. Konrad, W. G. Wilson, W. C. Brown.

Bishop: Roy Edward James, (Final), 32 Doughty Street, W.C.1. Neville Conder, Sir Hugh Casson, A. G. Scott.

Blee: Anthony David, (Final), 7 Alwyne Place, Canonbury, N.1. Basil Spence, Frederick Gibberd, Prof. R. H. Matthew.

Bowman: John Derek, (Final), 50 Franklyn Road, Peterlee, Co. Durham. Prof. W. B. Edwards, F. Fielden, F. H. Newrick.

Brocklesby: Peter Edward, (Special Final), 111 Northgate, Wakefield, Yorks. G. Yarwood, F. Chippindale, A. W. Glover.

Bruce: Herbert John, (Final), 59 Urquhart Drive, Mains V, East Kilbride, Lanarkshire. A. G. Jury, Prof. W. J. Smith, Thomas Barclay.

Bruce: Robert Keith, (Final), 2 Argyle Terrace, Mitchell Street, Alexandria, Dunbartonshire. Prof. W. J. Smith, Ninian Johnston, A. D. Cordiner.

Bryans: John Kenneth, (Final), 25 Appleton Road, Heaton Chapel, Stockport, Cheshire. H. T. Seward, Cecil Stewart, L. C. Howitt.

Buckingham: Peter Francis, (Final), 98a Bourne Road, Bexley, Kent. F. C. Levitt, W. G. Walmsley, Peter Dunham.

Bunton: Samuel, (Special Final), 29 Glamis Drive, East Kilbride, Glasgow. J. A. Coia, G. F. Shanks, Walter Underwood.

Burniston: James Desmond, (Special Final), 3 Wolverton Avenue, Kingston upon Thames. S. P. Anderson, R. M. Pigott, P. A. W. Roffey.

Byrom: Ralph Ambrose, (Final), 100 Chester Road, Poynton, Cheshire. Cecil Stewart, J. H. Bourne, E. S. Benson.

Caldwell: Anthony Humfrey, (Special Final), c/o Commonwealth Trading Bank of Australia, 8 Old Jewry, E.C.2. David Stokes, T. A. Eaton, Frankland Dark.

Calcutt: Derrick Arthur, (Final), 33 Wilbury Road, Hove, 3, Sussex. E. H. Button, K. E. Black, J. R. F. Daviel.

Campbell: James Edward Colin, (Final), 1 Christie Street, Paisley, Renfrewshire. R. M. Noad, A. F. Wallace, Prof. W. J. Smith.

Carr: Ian Colin, (Final), 'Garthowen', Hocker- ing Gardens, Woking, Surrey. A. H. Ley, Terence Carr, A. L. Luke.

Cashmore: William Frederick, (Final), 98 Quantonk Road, Weston-super-Mare, Somerset. Kenneth Nealon, F. L. Hannam, C. R. Beecroft.

Chalmers: George William John, Dipl.Arch. (Northern Polytechnic), (Northern Poly.(London): Dept. of Arch.), 129 Castle Street, Portchester, Fareham, Hampshire. A. C. Townsend, V. G. Cogswell, J. V. Nisbet.

Chandler: John, (Special Final), 23 Weydon Lane, Farnham, Surrey. F. T. Orman, Frank Risdon, R. H. Davies.

Cheeseman: Kenneth Cornelius, (Final), 28 Park Road, Leigh-on-Sea, Essex. J. M. Scott, A. R. Dannatt, W. Mollison.

Chen: Voon Fee (Arch.Assoc.(London) Sch. of Arch.), 52 Belsize Avenue, N.W.3. D. H. McMorran, G. Whitby, Arthur Korn.

Claridge: (Miss) Margaret Mabel, (Final), Caversham House, Oakhill Road, Putney, S.W.15. Edwin Rice, Dr. R. Herz, Paul Nightingale.

Clark: Nigel Cumliffe, (Final), 43 Bank Street, Rawtenstall, Rossendale, Lancs. W. G. Young, Cecil Stewart, H. W. Smith.

Clowes: George Martin, Dipl.T.P.(Leeds), (Final), 'Beverley', Blackmoor Lane, Bardsey, nr. Leeds. Stuart Bentley, Hubert Bennett, F. Chippindale.

Coats: Ian Hunter, (Final), 50 East Downs Road, Chaddle Hulme, Cheshire. H. T. Seward, Cecil Stewart, L. C. Howitt.

Collins: Raymond Sayer, (Special Final), 20 Hayes Close, Chelmsford, Essex. Harold Conolly, Denis Senior, Roff Marsh.

Cottle: Barrington Frederick, (Final), 1 Heyford Avenue, Eastville, Bristol. S. A. H. Clarke, T. J. Lynch, F. L. Hannam.

Crane: Philip George, (Special Final), Building 344, Atomic Energy Research Establishment, Harwell, Berks. A. G. Chant, C. W. McIntosh, G. J. Cuzens.

Crerar: William Gunn, (Final), 185a Stirling Street, Dunipace, Denny, Stirlingshire. H. Wilson, Prof. W. J. Smith, A. D. Cordiner.

Croydon: David Anthony, (Final), 'Colcestria',

212 Magpie Hall Road, Chatham, Kent. Ronald Ward, Victor Wilkins, E. T. A. Smith.

Cullinan: Edward Horder, B.A.(Cantab.), A.A.Dipl.(Arch.Assoc.(London): Sch. of Arch.), 5 South Hill Park Gardens, N.W.3. A. M. Chitty, Prof. R. H. Matthew, D. L. Lasdun.

Cuming: Arthur Leslie, (Final), 37 London Road South, Merstham, Surrey. Graham Crump, George Lowe, Charles Sykes.

Dalton: John Barrie, (Final), 'Southview', Littleton Pavell, nr. Devizes, Wilts. P. H. P. Bennett, M. L. Winslade, Sir Thomas Bennett.

Davis: Christopher Bryan, (Final), 50 Cheriton Place, Westbury-on-Trym, Bristol. W. H. Watkins, Mrs. L. M. Reekie, Kenneth Nealon.

Davison: Bryan, (Final), 74 Queens Road, Blackhill, Consett, Co. Durham. Applying for nomination by the Council under Bye-law 3(d).

Dean: Peter Norris, (Final), 26 Glenloch Road, Hampstead, N.W.3. P. H. P. Bennett, Sir Thomas Bennett, M. L. Winslade.

de Courcy: Antony John, (Special Final), Rose Cottage, Upperhouse Lane, Shamley Green, Surrey. Hubert Lidbetter, H. M. Lidbetter, D. H. McMorran.

Denby: John Edward, Dip.Arch.(Birm.), (Birmingham Sch. of Arch.), 86 Dimsdale View, Porthill, Newcastle, Staffs. A. Douglas Jones, F. W. B. Charles, A. G. Sheppard Fidler.

de Silva: Maggonagurunnanseloge Walter Piyadasa, Dip.T.P.(Lond.), A.M.T.P.I. (Special Final), c/o Midland Bank Ltd., 25 Great Portland Street, W.1. Prof. Sir William Holford, Graham Dawbarn, Arthur Korn.

Dry: David William, (Final), Wiggie Lodge, Redhill, Surrey. Neville Conder, Sir Hugh Casson, D. L. Bridgewater.

Dunn: Ian Peter, (Final), 4 Cloverhill View, East Kilbride, Glasgow. Gabriel Steel, L. D. Paterson, J. Holt.

Eaton: Henry Barrington, (Final), Flat 2, Shaftesbury House, Park Road, Chaddle Hulme, Cheshire. Cecil Stewart, L. C. Howitt, Edgar Sutcliffe.

Edginton: John Anthony, (Final), 18 Cambridge Road, Newton, Chester. A. Douglas Jones, F. W. B. Charles, A. C. Bennett.

Edwards: Douglas, (Special Final), 37 Holmwood Avenue, Sanderstead, Surrey. A. V. Banks, C. E. W. Boreham, H. W. E. Lindo.

Engering: Michael Gordon, (Special Final), 87 Nightingale Lane, Balham, S.W.12. W. R. Fowler, K. L. Sharpe, Norman Keep.

Fairweather: Leslie Stephen, (Final), 25 Malling Down, Lewes, Sussex. K. E. Black, J. R. F. Daviel, R. C. Garrett.

Fenner: John Eric Albert, (Special Final), 3 Chudleigh Road, Brockley, S.E.4. J. S. Walkden, George Coles, H. R. Ross.

Fetherstone: John Michael, (Final), 22 Nelson Road, Sheringham, Norfolk. F. H. Swindells, E. R. Crane, J. B. Noble.

Flinders: Alec, (Final), 10 Holford Street, Tonbridge, Kent. Sydney Kaye, R. C. White-Cooper, E. H. Firmin.

Forster: Alexander Ronald, (Special Final), 4 Holmwood Avenue, Whitley Bay, Northumber- land. G. H. Gray, J. H. Napper, Prof. W. B. Edwards.

Frew: Robert, (Special Final), 2 Waverley Avenue, Colgrain, Helensburgh, Dunbarton- shire. F. R. Burnet, J. Bell, W. A. P. Jack.

Gabb: John Kingsley, (Final), 7 Raglan Walk, Keynsham, Bristol. F. L. Hannam, Kenneth Nealon, C. R. Beecroft.

Gasiewicz: Zbigniew, M.C., (Special Final), 99 Thurlstone Road, West Norwood, S.E.27. R. T. Boutall, A. C. Hopkinson, Thomas Ritchie.

Gervis: Guy Rowsell, B.A.(Cantab.), A.A.Dipl. (Arch.Assoc.(London) Sch. of Arch.), 42 Inver- ness Street, N.W.1. Arthur Korn, H. G. Goddard, A. E. Miller.

Godding: Brian John, (Final), 1 Acton House, Horn Lane, Acton, W.3. A. S. Gray, A. H. Devereux, Clifford Culpin.

Grayling: Brian Dorrall Percy, (Special Final), Flat 3, 24 Fonnereau Road, Ipswich, Suffolk. M. J. Slater, J. T. Adams, E. J. Symcox.

Greenwood: Arthur Geoffrey, (Final), 'Wyndon', Ennerdale Road, Dewsbury, Yorks. Norman Culley, R. R. Alexander, Kenneth Turner.

Gregory: John Leonard, Dip.Arch.(Birm.), (Birmingham Sch. of Arch.), 9 High Street, Witham, Essex. Harold Conolly, A. Douglas Jones, F. W. B. Charles.

Harrison: Keith, (Final), 11 Cambridge Square, W.2. E. M. Fry, Miss J. B. Drew, D. L. Lasdun.

Harvey: John William, (Final), 16 Chalfont Road, Weston-super-Mare, Somerset. George Ford, A. C. Hopkinson, J. C. Claverling.

Hathaway: Kenneth Roy, (Final), 399a Edgware Road, W.2. E. D. J. Mathews and applying for nomination by the Council under Bye-law 3(d).

Heath: Ronald Victor, Dipl.Arch.(Northern Polytechnic), (Northern Poly.(London): Dept. of Arch.), 159 Fillebrook Road, Leytonstone E.11. R. Seifert, P. H. P. Bennett, M. L. Winslade.

Heatley: Mervyn David, (Special Final), 13 Ridgeway Park North, Portadown, Co. Armagh, N. Ireland. Applying for nomination by the Council under Bye-law 3(d).

Hellawell: Michael, (Final), 60 Underbank Old Road, Holmfirth, Huddersfield. Norman Culley, J. Smith, E. A. Johnson.

Helme: John Derek, (Final), Woodlands, Lindfield, Sussex. R. O. Hall, D. H. McMorran, George Whitby.

Hill: William Heman, (Special Final), 9 Brockle- hurst Avenue, Bury, Lancs. Arthur Brocklehurst, Thomas Duffy, Cecil Stewart.

Hodgkinson: Patrick Geoffrey, A.A.Dipl. (Arch.Assoc.(London): Sch. of Arch.), 17 Portu- gal Place, Cambridge. Prof. Sir Leslie Martin, C. K. Capon, Anthony Cox.

Hodgson: Russell, (Special Final), 3, Queensland Avenue, Redcar-by-sea, Yorks. Applying for nom- ination by the Council under Bye-law 3(d).

Holliman: (Miss) Patricia Gillian Eugenie, (Special Final), 138c West Hill, Putney, S.W.15. George Ford, E. H. Banks, R. T. Boutall.

Howard: Robert Anthony, A.A.Dipl.(Arch. Assoc.(London): Sch. of Arch.), 16 Rochester Road, N.W.1. Arthur Korn, M. H. Cooke- Yarborough, P. L. Cocke.

Hunt: Philip Derek, (Final), 14 King George Avenue, Walton-on-Thames, Surrey. Sir Charles Mole, R. J. Duke, Val Elsey.

Hurley: Albert Francis William, (Final), Flat 6, 'Northcliff', 84 Cambridge Road, Birmingham, 14. J. A. Suggitt, C. E. M. Fillmore, Herbert Jackson.

Innerdale: John Hamilton, Dip.Arch.(Man- chester), (Victoria Univ., Manchester: Sch. of Arch.), 43 Coppice Avenue, Lower Willington, Eastbourne, Sussex. Prof. R. A. Cordingley, H. L. Kelly, James Cannell.

James: William Leon, (Final), 23 Crossways Drive, Harrogate, Yorkshire. A. N. Thorpe, E. Firth, C. Leckenby.

Janes: Stanley Edwin, (Special Final), 1 Ailsa Terrace, Tiverton, Devon. Applying for nomi- nation by the Council under Bye-law 3(d).

Jones: Emlyn Ronald Proudlowe, (Final), Maesgwyn, 1 Jubilee Villas, Adwy, Coedpoeth, nr. Wrexham, Denbighshire. C. W. McIntosh, H. Carr, G. Bellis.

Keal: Wilfred Herbert George, (Special Final), Willow Lodge, Lubbock Road, Chislehurst, Kent. L. C. Holbrook, I. G. Smith, W. B. Stedman.

Keir: Patrick, Dip.Arch.(Aberdn.), (Aberdeen Sch. of Arch.: Robert Gordon's Tech. Coll.), c/o County Architect, County Hall, Newcastle upon Tyne. I. E. F. Davies, R. N. MacKellar, G. E. Charlewood.

Lamb: John, (Final), 29 Priory Road, N.W.6. Paul Nightingale, Dr. R. Herz, Z. Jacobson.

Langdon: Alan Ernest, (Sch. of Tech. Art and Commerce, Oxford: Sch. of Arch.), 'Holly Cottage', Honiton Clyst, nr. Exeter, Devon. Reginald Cave, H. M. R. Drury, J. F. Smith.

Leake: (Miss) Barbara Violet Frances, (Final), 15 Pembroke Crescent, Hove, 3, Sussex. K. E. Black, Thomas Sibthorp, and applying for nomination by the Council under Bye-law 3(d).

Lee: Brian Statham, (Special Final), 32 Gores Lane, Freshfield, Formby, Lancs. J. A. Haddy, F. J. M. Ormrod, E. A. Newton.

Louden: Alexander Grant, (Final), 8 Burnside Gardens, Prestwick, Ayrshire. C. W. Box, J. A. Carrick, R. G. Lindsay.

MacDonald: Angus William, M.A.(Cantab.), (Final), 72 River Way, Ewell, Surrey. J. H. Alleyne, J. S. Walkden, Thomas Sibthorp.

McGill: Ian Graham, (Final), 203 West George Street, Glasgow, C.2. Prof. W. J. Smith, A. D. Cordiner, J. A. Carrick.

McLaughlin: Joseph Francis, (Special Final), 1a Tor Gardens, Kensington, W.8. Charles Pike, Raglan Squire, E. D. Mills.

McMurray: Samuel Burns, (Final), 'Wetherby', 35 Gallowhill Road, Lenzie, nr. Glasgow. T. S. Cordiner, Prof. W. J. Smith, A. D. Cordiner.

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Martin: Alfred Henry, (Special Final), 7 Somerset Park, Belfast. E. D. Taylor, S. G. Goligher, J. H. Swann.

Maxwell: John Joseph Gardner, D.A.(Glas.), (Glasgow Sch. of Arch.), 16 Greenan Road, Kilmarnock, Ayrshire. Gabriel Steel, Prof. W. J. Smith, A. D. Cordiner.

Meade: Patrick Vernon, (Final), 9 Chantler's Mead, Cowden, Edenbridge, Kent. R. P. S. Hubbard, Edward Playne, J. S. Lacey.

Mehta: Kailash Nath, (Final), 8 Weech Road, N.W.6. J. E. Sterrett, E. M. Fry, A. H. Archard.

Mellor: David Malcolm, (Final), 122 Dorset Road, Bexhill-on-Sea. F. R. Steele, G. J. Jolly, A. C. Townsend.

Miller: Dennis Ralph, (Special Final), 17 Dacre Gardens, Chigwell, Essex. T. E. Scott, R. O. Hall, R. P. Sharman.

Miller-Williams: (Mrs.) Susan Ruth, M.A. (Cantab.), (Final), 13 Park Road, Gloucester. W. P. Dyson, D. S. Davis, Colonel N. H. Waller.

Mitchell: William Ian, (Final), 62 Mounfield Road, Finchley, N. W. Prof. W. J. Smith, S. E. T. Cusdin, F. L. Preston.

Moody: Brian Gifford, (Final), 18 Potters Croft, Horsham, Sussex. K. W. Farms, Mrs. M. F. Farms, Peter Moro.

Moore: Stanley Sidney Stephen, (Special Final), 123 Gurney Road, Stratford, E.15. J. V. Hamilton, L. C. Varcoe, A. H. Ley.

Moore: John Eric, (Special Final), 'Tramore', 172 Longhurst Lane, Mellor, nr. Stockport, Cheshire. Cecil Stewart, J. H. Bourne, L. C. Howitt.

Murphy: William Joseph, B.Arch.(N.U.I. Dublin), (Univ. Coll., Dublin, Ireland: Sch. of Arch.), 'Floraville', Boreenmanna Road, Cork. Eire. Prof. H. M. Wright, Prof. J. V. Downes, W. A. Maguire.

Nugent: Kenneth Edward Thornton, (Final), 268 Churchill Drive, Glasgow. W. I. J. A. Coia, Prof. W. J. Smith, A. D. Cordiner.

Oliver: Frederick Austin, (Special Final), 148 Merville Garden Village, Newtownabbey, Co. Antrim, N. Ireland. J. H. Swann, E. D. Taylor, A. F. Lucy.

Orton: (Mrs.) Hazel Winifred, (Final), 7 Landress Lane, Beverley, Yorkshire. J. Konrad, W. G. Wilson, Lieut.-Colonel J. P. Taylor.

Park: Miles Robertson, (Arch.Assoc.(London): Sch. of Arch.), South Point, St. George's Hill, Weybridge, Surrey. S. H. J. Roth, Oliver Hill, Arthur Korn.

Penny: John Campbell, Dip.Arch.(Birm.), (Birmingham Sch. of Arch.), 163 Gristhorpe Road, Selly Oak, Birmingham. 29. A. Douglas Jones, G. A. G. Miller, Seymour Harris.

Perrin: Gerald Aubrey, (Final), 99 East Park, Harlow, Essex. Frederick Gibberd, H. W. Matthews, R. O. Foster.

Perrott: Ian Otho Gordon, (Special Final), 8 Elliott Place, Enniskillen, County Fermanagh, N. Ireland. Applying for nomination by the Council under Bye-law 3(d).

Perry: Victor James, (Final), 7 Cricketers Close, Clayton Road, Chessington, Surrey. H. E. Foreman, S. E. Bragg, A. R. Borrett.

Perryman: John, Dip.Arch.(The Polytechnic), (The Poly., Regent Street, London: Sch. of Arch.), 31 Balgore Lane, Gidea Park, Essex. J. S. Walkden, Frank Risdon, W. S. Hattrell.

Phillips: Glyn George, (Final), c/o County Architect's Office, Shire Hall, Warwick. H. T. Wykes, O. S. Portsmouth, C. G. Tagholm.

Platts: Arthur Richard, (Final), 102 Highgate, Cleethorpes, Lincs. J. Konrad, W. G. Wilson, W. C. Brown.

Porter: Dennis, (Special Final), 204 Aldborough Road, Newbury Park, Ilford, Essex. Applying for nomination by the Council under Bye-law 3(d).

Powell: Alan Ralph, (Final), 122 Beechcroft Road, Holbeache, Wall Heath, Staffs. J. T. Lewis, A. Douglas Jones, A. R. Young.

Preece: Derek Thomas, B.Sc.(Tech.), (Manchester), (Special Final), Hollymount, Bridstow, Ross-on-Wye, Herefordshire. W. Usher, H. F. Trew, A. D. Davis.

Presswell: Paul Trevor, (Special Final), 15 Pembroke Court, Edwades Square, Kensington,

W. 8. A. Beasley, Miss J. E. Townsend, Lieut.-Colonel L. K. Watson.

Prew: Raymond, (Special Final), 35 Sparch Hollow, Maybank, Newcastle-under-Lyme, Staffs. T. J. Lynch, D. C. Campbell, C. Knapper.

Prior: Alfred Kenneth Ernest, (Special Final), 51 Dumbleton Avenue, Leicester. R. J. Howrie, J. H. L. Owen, T. W. Haird.

Raby: Denis Pierre, (Special Final), 37 Liddell Road, West Derby, Liverpool, 12. Applying for nomination by the Council under Bye-law 3(d).

Ranadive: Sharadachandra, (Final), 3 Hemstal Road, N.W.6. A. C. Hopkinson, Z. Sirotkin, R. T. Boutall.

Raote: Sadanand Madhusudan, (Final), 16 Netherwoods Road, Headington, Oxford. Reginald Cave, E. R. Chilton, K. A. Stevens.

Reshad: Izzet Ezel, Dip.Arch.(Sheffield), (Univ. of Sheffield: Dept. of Arch.), 39 Parkers Road, Sheffield, 10. Prof. Stephen Welsh, H. B. Leighton, Prof. John Needham.

Robinson: Edward Harry, (Special Final), 47 Tanyls Dell, Harlow, Essex. C. W. Fox, Frederick Gibberd, E. L. W. Davies.

Roseveare: Peter Carmichael, (Special Final), 41 Cedarcroft Road, Beacon Park, Plymouth, Devon. P. W. T. Elford and the President and Hon. Secretary of the Devon and Cornwall Soc. of Arch. under Bye-law 3(a).

Ruane: Brian Benham, (Final), 24 Bingham Road, Frindsbury, nr. Rochester, Kent. E. T. A. Smith, R. T. Green, L. H. McDermott.

Sanderson: Arthur Michael, (Special Final), 24 Favart Road, S.W.6. A. C. Hopkinson, Z. Sirotkin, R. T. Boutall.

Sawyer: John Henry Allan, (Final), 104 Gascoyne House, Hackney, E.9. T. E. Scott, C. G. Bath, S. F. Burley.

Scott: John James, (Special Final), 10 Marryat House, Churchill Gardens, S.W.1. W. A. Guttridge, P. W. Adams, L. G. Creed.

Sefton: Alan Henry, (Final), 88 Great King Street, Macclesfield, Cheshire. Cecil Stewart, E. S. Benson, C. W. Quysner.

Sharp: James, (Special Final), 23 Cumberland Road, Rochdale, Lancs. Cecil Stewart, B. L. Moir, E. S. Benson.

Shaw: Eric, (Final), 77 Fleminghouse Lane, Waterloo, Huddersfield. Norman Culley, Clifford Hickson, S. M. Richmond.

Skin: Donald Mark, (Special Final), 207 Bishopton Road West, Stockton-on-Tees, Co. Durham. Applying for nomination by the Council under Bye-law 3(d).

Smethurst: John, (Final), 10 Greenbank Terrace, Middleton, Lancs. Cecil Stewart, F. M. Reynolds, F. L. Halliday.

Smith: John Edgar, (Special Final), 193 Walstead Road, Walsall, Staffs. D. A. Goldfinch, A. Douglas Jones, F. W. B. Charles.

Spiller: John Rex, Dip.Arch.(The Polytechnic), (The Poly., Regent Street, London: Sch. of Arch.), 35 Court Road, South Norwood, S.E.25. S. E. T. Cusdin, J. M. Easton, F. L. Preston.

Stanfield: David John, (Final), 13 Broomhill Park, Bangor, Co. Down, N. Ireland. J. H. Swann, A. F. Lucy, E. D. Taylor.

Stobie: Geoffrey John, (Special Final), 50 Stradella Road, Herne Hill, S.E.24. J. A. Slater, R. H. Uren, A. R. F. Anderson.

Storie: John, (Final), 18 Cherryhill Avenue, Dundonald, Co. Down, N. Ireland. D. A. Shanks, John Nicol, J. H. Swann.

Taylor: Leonard, (Final), 14 Inglewhite Avenue, Wigan, Lancs. J. A. Haddy, F. J. M. Ormrod, Frank Bradley.

Thrasher: Paul Trevor, (Final), 93 Shirley Drive, Hove, 4, Sussex. W. J. Thrasher, N. F. Cachemaille-Day, K. E. Black.

Truesdale: Stanley Ashworth, (Special Final), 123 Grange Road, Birmingham. 24. Stuart Bentley and applying for nomination by the Council under Bye-law 3(d).

Uku: Vivian Thomas, Dip.Arch.(Sheffield), (Univ. of Sheffield: Dept. of Arch.), 77 Coten End, Warwick. Prof. Stephen Welsh, G. R. Barnsley, Prof. John Needham.

Upton: Albert Joseph, (Final), 50 Chartfield Avenue, Putney, S.W.15. Basil Spence, Elie Mayorcias, J. S. Walkden.

Vickers: David Allan, (Final), 61 Chapel Street, Belper, Derbyshire. J. Konrad, W. G. Wilson, Lieut.-Colonel J. P. Taylor.

Wallis: (Miss) Pamela June, A.A.Dipl.(Arch. Assoc.(London): Sch. of Arch.), 69 Harvest Bank

Road, West Wickham, Kent. Sir Thomas Bennett, L. M. Gotch, M. L. Winslade.

Warham: Christopher David, Dipl.Arch.(Kingston), (Sch. of Arch., Kingston upon Thames: Dept. of Arch.), 281 West Barnes Lane, New Malden, Surrey. Applying for nomination by the Council under Bye-law 3(d).

Warner: John Halls, (Special Final), 29 Lauriston Road, Preston, Brighton, 6. F. G. A. Hall, S. C. Clark, K. E. Black.

Watson: John Cunningham, (Special Final), 9 Spur Road, Orpington, Kent. C. W. Hutton, J. F. Howes, F. L. Jackman.

Watt: David Harry Munro, (Special Final), 24 Kingrove Avenue, Chilwell, Notts. N. Summers, H. H. Dawson, L. W. Nunn.

Watts: Anthony Charles, (Final), 337 Old Farm Avenue, Sidcup, Kent. Applying for nomination by the Council under Bye-law 3(d).

Watts: Anthony Venning, (Final), 111 Overdale, Eastfield, Scarborough, Yorkshire. J. Konrad, W. G. Wilson, Lieut.-Colonel J. P. Taylor.

Webb: Kenneth Lawrence, (Final), 8 Mortimer Crescent, Worcester Park, Surrey. Ronald Ward, Kenneth Peacock, H. H. Clark.

Wheatcroft: Ian, B.A.(Arch.), (Manchester), (Victoria Univ., Manchester: Sch. of Arch.), 33 The Circuit, Alderley Edge, Cheshire. E. S. Benson, Dr. W. A. Singleton, L. C. Howitt.

White: Reginald James, (Final), 23 Sackville Road, Southend-on-Sea, Essex. J. M. Scott, L. J. Selby, P. F. Burridge.

Whitehead: John, (Final), 1 The Park, Highgate, N.6. Kenneth Peacock, J. K. Robertson, D. M. Hodges.

Worthington: Richard Geoffrey, (Final), 44 Saxonbury Avenue, Sunbury-on-Thames, Middx. Ronald Ward, C. H. Elsom, E. D. Mills.

Young: Basil Ormond, (Special Final), 'Solway', Kingswood Lane, Warrington, Surrey. T. E. Heysham, R. C. White-Cooper, and applying for nomination by the Council under Bye-law 3(d).

Young: Fraser Anderson, (Final), 14 George Reith Avenue, Glasgow. W.2. H. J. D. Hamilton, James Taylor, W. J. B. Wright.

Young: Harold, (Special Final), 'Upper House', Northowram, Halifax. N. H. Fowler, W. H. King, Noel Pyman.

Members' Column

This column is reserved for notices of changes of address, partnerships vacant or wanted, practices for sale or wanted, office accommodation, and personal notices other than of posts wanted as salaried assistants for which the Institute's Employment Register is maintained.

APPOINTMENTS

Mr. K. W. Craven, A.M.T.P.I. [A], has been appointed Borough Architect to the County Borough of Merthyr Tydfil.

Mr. Miles Danby [A] has been appointed Lecturer in Architecture in the School of Architecture, Town Planning and Building Technology at Kumasi College of Technology, Kumasi, Ghana.

Mr. Mark P. David, A.M.T.P.I. [A], has been appointed Architect-Planner to the private planning consultant firm of Blair Associates, 7 Dyer Street, Providence, Rhode Island, U.S.A.

Mr. R. C. Ellason [A] has been appointed Company Architect to Schreiber Wood Industries Ltd., Argyle Way, Stevenage, Herts, and will be pleased to receive useful technical literature, etc.

Mr. W. G. Palmer, D.F.C. [A], has taken up the post of Chief Architect to Messrs. N. R. Trickett Limited, estate developers of 1 Spring Crescent, Portsmouth, Southampton (Southampton 56207), where he will be pleased to receive trade literature. His private address is now 21 Velmore Road, Chandler's Ford, Eastleigh, Hants (Chandler's Ford 2670).

Mr. Gerald William Wakeham [A], formerly Planning Officer, Nairobi City Council, has taken up the appointment of Architect to the Bank of London and South America in Argentina. His address is now c/o Bank of London and South America, Ltd., Bartolomé Mitre 399, Buenos Aires, Argentina.

Mr. Ronald G. Williams [A] has taken up the appointment of Architect to the Cathedral Chapter of Freetown, Sierra Leone, at P.O. Box 128, Freetown, where he will be pleased to receive catalogues, etc., from manufacturers offering a service in that area.

PRACTICES AND PARTNERSHIPS

Mr. T. W. Applegath [L] has relinquished his appointment as Architect to Messrs. Rendel, Palmer and Tritton, consulting engineers, and is continuing his practice at 44 Udney Park Road, Teddington. Only trade literature quoting a basic price will be welcome.

The practice of Carter and Salaman, which has been carried on since the death of Mr. R. Carter [F] in 1957 by Mr. E. D. P. Salaman [A], will in future be continued by Mr. Salaman, Mr. P. W. MacIver [A] and Mr. J. K. Upfold [A] under the style of Carter, Salaman, MacIver and Upfold, at Lyndum House, High Street, Petersfield, Hampshire.

Mr. D. G. M. Chalmers [A] has resigned from partnership with Messrs. McMorris and Sibley and commenced private practice at 68 Oxford Road, Kingston 5, Jamaica, W.I.

Mr. R. G. Chapman [A] and Mr. John Stephen Taylor [A] have terminated their partnership in the firm of Guy Morgan and Partners [F/A], and are now in practice with Miss Jane Durham [A] under the style of Chapman, Taylor, Partners at Grand Buildings, Trafalgar Square, London, W.C.2. (Trafalgar 1830).

Mr. George Coles [F] has taken Mr. W. E. Forrest [A] and Mr. F. J. W. Turner [A] into partnership under the style of George Coles at 40 Craven Street, Strand, London, W.C.2.

Mr. Colin Cooper [A] and Mr. D. F. A. Williamson [A] of Brocklehurst, Cooper and Williamson, High Wycombe, have taken Mr. Alan Williamson and Mr. Eric Hardy [A] into partnership. The firm will continue to practise under the same style at Tudor House, 39a High Street, High Wycombe, Bucks.

Mr. T. R. Evans [A] has retired from partnership in the firm of Yorke, Rosenberg and Mardall [F/A] on appointment as Joint Managing Architect and Secretary to Messrs. Yorke, Rosenberg, Mardall and Partners.

Mr. Cecil E. M. Fillmore [F] and Mr. Geoffrey Cox [F] of the firm of Cecil E. M. Fillmore have taken Mr. Brian Bailey [A] into partnership under the same style at Waterloo House, 20 Waterloo Street, Birmingham, 2.

Mr. Ian Fraser, A.A. Dipl. [A] has taken Mr. R. J. Lansdown [A], Mr. S. H. Eagleson [A] and Mr. A. P. Holt [A] into partnership. His new London office address is now 15-16 Bedford Street, Strand, London, W.C.2.

Mr. D. V. Hewitt [A] is now in private practice at 5 Esplanade Chambers, St. Helier, Jersey, C.I. (Central 5240).

Mr. Alister MacDonald [F] has taken Mr. Edward Jamilly [A] into partnership and the practice will continue under the style of Alister MacDonald and Partners, from Aldine House, 10-13 Bedford Street, London, W.C.2 (Temple Bar 0794 and 8169). Mr. D. Keith Compton [A] and Mr. Cyril F. Manning [A] have become associates of the new firm.

Mr. John Ellis Middleton [L] has taken Mr. J. Brian Jones [A] into partnership under the style of Ellis Middleton and Jones at Central Chambers, 1 Norfolk Street, King's Lynn.

Mr. Michael G. Murray [A] has entered into partnership with Mr. Paul Lerche-Thomsen of Wrotham, Kent, and is now practising from 1a Middle Temple Lane, London, E.C.4, under the style of Lerche-Thomsen and Murray.

The firm of Pite, Son and Fairweather [AA] of 6 Queen Anne's Gate, Westminster, London, S.W.1, will henceforth be known as Messrs. George, Trew and Dunn, practising from the same address. The partners are Mr. W. N. B. George, A.M.T.P.I. [A], Mr. J. K. O. Trew [A] and Mr. R. M. K. Dunn [A]. The firm has taken into association Mr. A. Beckles Willson [A] and Mr. C. W. Nel [A].

By mutual consent the partnership between Mr. H. Provis and Mr. G. A. Cope [F] under the style of Baines, Provis and Cope, has been dissolved. Mr. Cope is now practising under his own name at 16 New Street, Leicester.

Mr. Dennis E. Pugh [A] is commencing practice in Enfield, but will continue his association with Architects' Co-partnership until the end of 1959.

Mr. S. E. Shepherd, F.R.I.C.S. [L], has taken Mr. O. F. Nicholson and Mr. A. T. Wickham Robinson [A] into partnership under the style of Shepherd, Fowler and Marshall at 15 St. James' Row, Sheffield, 1 (Sheffield 28854-5-6).

The partnership between Mr. John Smith [F] and Mr. H. W. Curry [A] of 1 Church Street, Heckmondwike, and 34 Market Place, Dewsbury, has been dissolved. Mr. Smith is now practising on his own account from the same addresses.

Mr. Peter H. F. Stiles [F] has relinquished partnership in the firm of Ramsey, Murray, White and Ward [F/A] by mutual consent and is now practising independently at 9 Devereux Court, Strand, London, W.C.2.

Messrs. Ernest J. Thomas, Jolly and Grant [F/A] of 26 Kent Road, Southsea, Hants, have taken Mr. James W. Harper [A] and Mr. Gordon Clark into partnership under the same style.

CHANGES OF ADDRESS

Mr. Derek J. Baber [A] has changed his address to Brooks-Baber Associates, 75 Tottenham Court Road, London, W.1, where he will be pleased to receive trade literature.

Messrs. Bell and Bell (E. C. Bell [L]) have changed their address to 10 Scarborough Street, West Hartlepool, Co. Durham. The telephone number remains West Hartlepool 2765.

Mr. Norman Brown [A] has changed his address to Bryncoch Cottage, Trimsaran, Carmar., where he will be pleased to receive trade catalogues.

Messrs. Carver, Symon and Ross [F] of 9 Tay Square, Dundee, have closed down their branch office at Perth, which was under the style of Ross and Partners.

Mr. James N. Cunningham [A] has transferred his practice to 8 India Street, Glasgow, C.2 (City 5711), where he will be pleased to receive trade literature.

Mr. John Cunningham [A] has changed his address to 31 Avalon Road, Maiden Erlegh, Reading, Berks (Reading 62982).

Mr. Peter B. Davenport [A] has opened an office at 34 Market Street, Hyde, Cheshire (Hyde 3060), where he will be pleased to receive trade catalogues in A.4 size.

Mr. Edward S. Fawcett [A] has changed his address to 16 Salcombe Avenue, Stafford, Staffs.

Mr. Anthony M. S. Forrest [A] has changed his address to Middleton House, Middleton-in-Teesdale, Barnard Castle, Co. Durham (Middleton-in-Teesdale 386).

Mr. D. C. Gunter [A] has changed his address to 77 Abel Smith Street, P.O. Box 6424, Wellington C.2, New Zealand.

Mr. Norman V. Hyde [A] has changed his address to 100 Hermitage Road, Hitchin, Herts. His telephone number remains Hitchin 3617.

Mr. N. K. Jarvis [A] has changed his address to Rooms 5/6 Queens House, Cairo Road, P.O. Box 1263, Lusaka, Northern Rhodesia.

Mrs. Beryl Jeffery (née Probert) [A] has changed her address to 13 Vandayke Close, Putney Heath Lane, London, S.W.15.

Mr. M. Lynn Jenkins [A] has changed his address to 8 Broom Road, Teddington, Middx.

The practices of Sir Lancelot Keay, Basil G. Duckett and Partners [F/A] and Duckett, Rix and Scott [AA] have moved to 22 Oldbury Place, London, W.1.

Mr. Alexander Garland Kirkwood [A] has changed his address to Architectural Division Construction Branch, Department of Transport, Air Services, Ottawa, Ontario, Canada.

The Council of Kumasi College of Technology, Ghana, has opened an Architect's Office in London at 15 Gordon Square, for a limited period. The architect in charge will be Mr. G. Christopher [A] to whom all correspondence should be addressed.

Miss Margaret Lawson [A] (Mrs. M. A. F. Withers) has changed her address from 33 to 36 Albert Mansions, Albert Bridge Road, London, S.W.11 (Battersea 9413).

Mr. B. D. J. Meehan [A] has changed his address to 14 Church Street (3rd floor), Kensington, London, W.8 (Western 5706).

Messrs. Edward D. Mills and Partners [F/A] have changed their address to 9-11 Richmond Buildings, Dean Street, Soho, London, W.1. The telephone number remains Gerrard 8305-6.

Messrs. Hewitt Mitchell and Partners [AA] have moved their offices to 140 Streatham Hill, London, S.W.2 (Tulse Hill 0077-8).

Mr. L. R. G. Preston [A] has changed his address to 'Woodcote', Moorlands Road, West Moors, Dorset.

Mr. Ronald Pursey [A], formerly of Messrs. Yorke, Rosenberg and Mardall [F/A], has changed his address to 12 Gregory Street, Clayfield, Brisbane, Queensland, Australia.

Mr. Roy Stout [A] has changed his address to 12 Eccleston Square, Westminster, London, S.W.1.

Mr. P. D. Tugwell [A] has changed his address to c/o Commonwealth Trading Bank of Australia, 135 Rundle Street, Adelaide, South Australia.

Messrs. Lesslie K. Watson and Harold J. Coates [FF] have moved their office to 3 Raymond Buildings, Gray's Inn, London, W.C.1. The telephone number remains Holborn 4623-4.

Mr. J. D. Welch [A] has changed his address to Kumasi College of Technology, Kumasi, Ashanti, Ghana.

MISCELLANEOUS

The British Group of the International Centre for Regional Planning and Development have sets of a number of reputable architectural journals for the years 1947 to 1951, which they would be prepared to make available to an organisation which is in need of them. Applications to the Secretary, 123, 124, Newgate Street, London, E.C.1.

PRACTICES AND PARTNERSHIPS WANTED AND AVAILABLE

Associate (44) requires partnership with busy London or Home Counties firm. Ten years' general practice on own account in London. Some capital available. Box 51, c/o Secretary, R.I.B.A.

Associate (33), with own practice of three years' standing in South Bucks, wishes to amalgamate with another similarly placed, or would consider developing branch office facilities for London or provincial practice requiring expansion. Box 58, c/o Secretary, R.I.B.A.

Midlands firm of architects, interested in acquiring small architectural practice and office accommodation in London, will be glad to receive particulars. Box 59, c/o Secretary, R.I.B.A.

Senior energetic partnership available in well-established firm of architects and surveyors, with a varied all-round practice, in Surrey, near Croydon. Box 60, c/o Secretary, R.I.B.A.

Associate (32), school trained, experience includes five years running a London office, seeks partnership or position leading to partnership with London or provincial firm. Box 62, c/o Secretary, R.I.B.A.

Associate (33), with eight years' varied experience in private practice, London and provinces, requires responsible position with prospects of future partnership in southern counties. Some capital available. Box 63, c/o Secretary, R.I.B.A.

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Well-known efficient provincial practice with staff and spacious well-equipped premises, also with connections in London, wishes to associate with larger London firm, short of space and staff, to increase scope of work. Box 65, c/o Secretary, R.I.B.A.

Associate (31), senior assistant in private practice, with growing private work, seeks partnership in London area; single; own car; some capital available. Box 66, c/o Secretary, R.I.B.A.

WANTED AND FOR SALE

For Sale. Bound copies of the ARCHITECTURAL REVIEW, July 1951 to June 1952, July 1952 to June 1953, July 1953 to June 1954. Box 56, c/o Secretary, R.I.B.A.

Architect wishes to hire for minimum period of nine months or to buy office furniture and drawing office equipment. Box 57, c/o Secretary, R.I.B.A.

Wanted. Plan chest for storage of drawings. Box 61, c/o Secretary, R.I.B.A.

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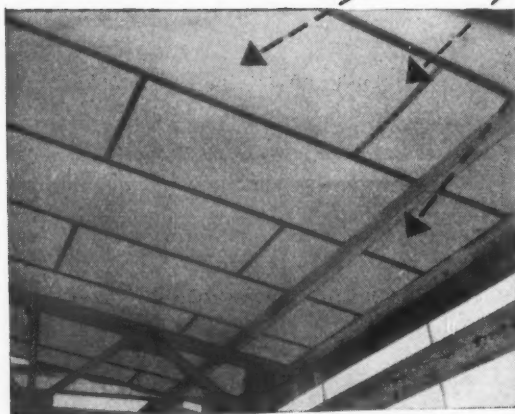
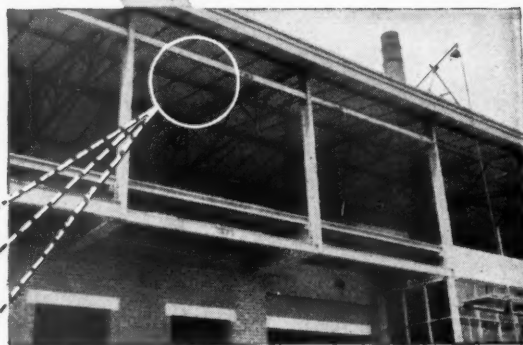


F/9/1



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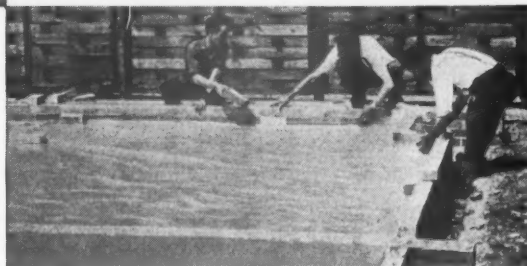
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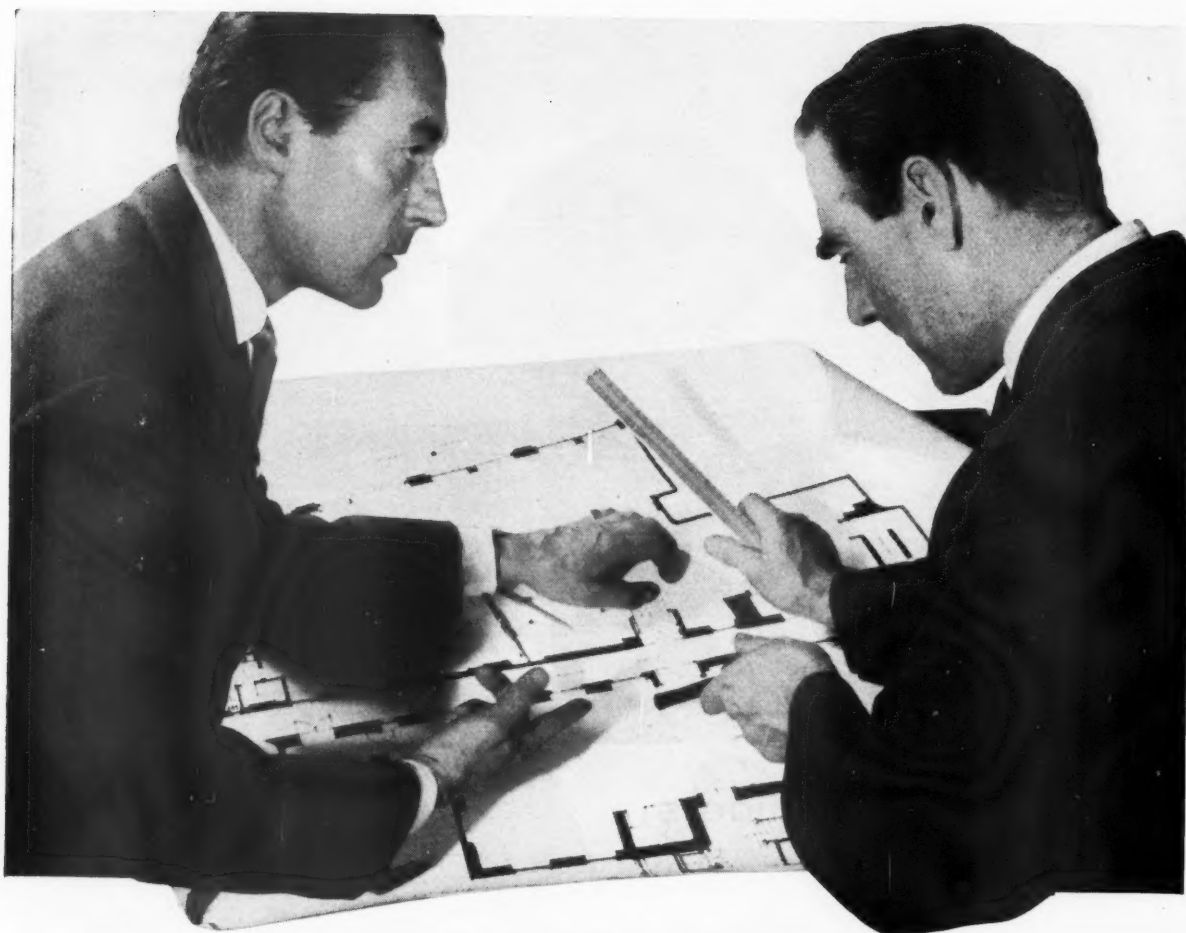


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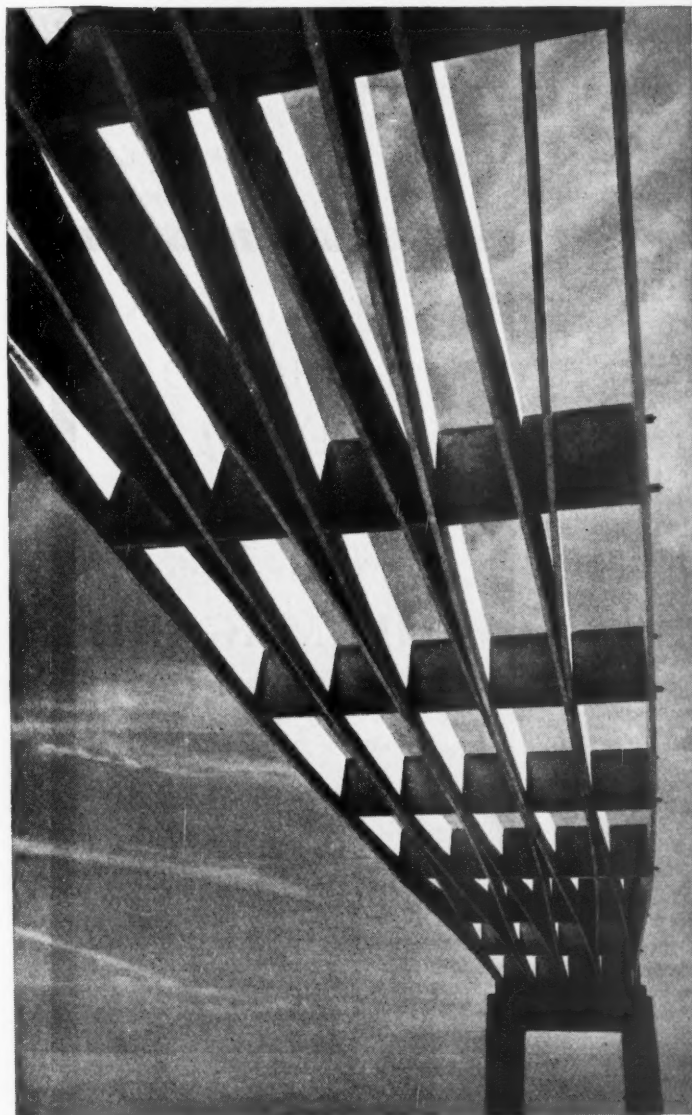
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(An extract from the Express & Star, January 12th, 1959)

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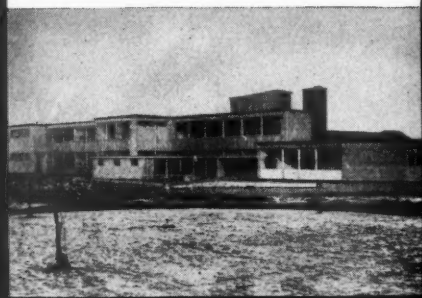
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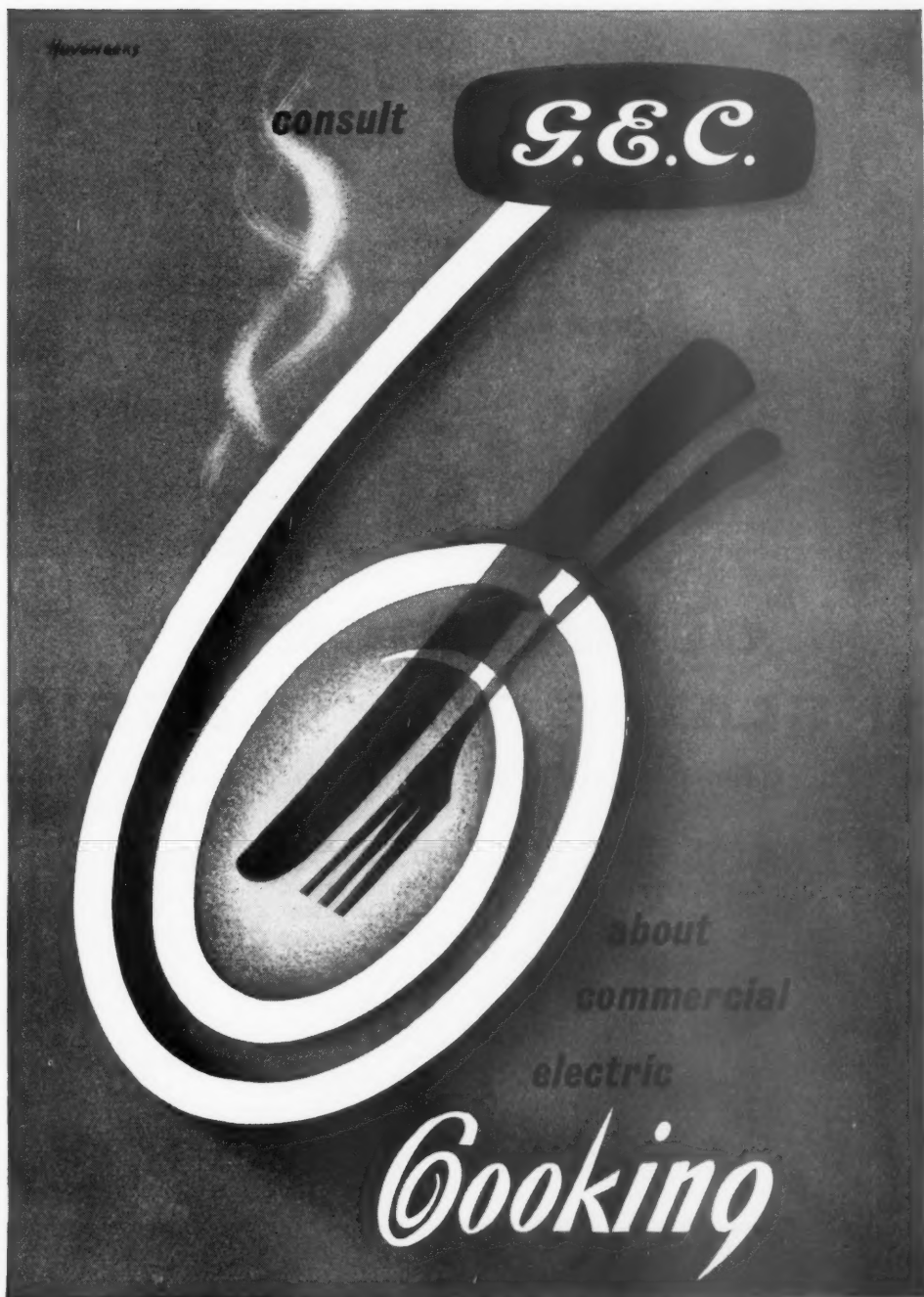


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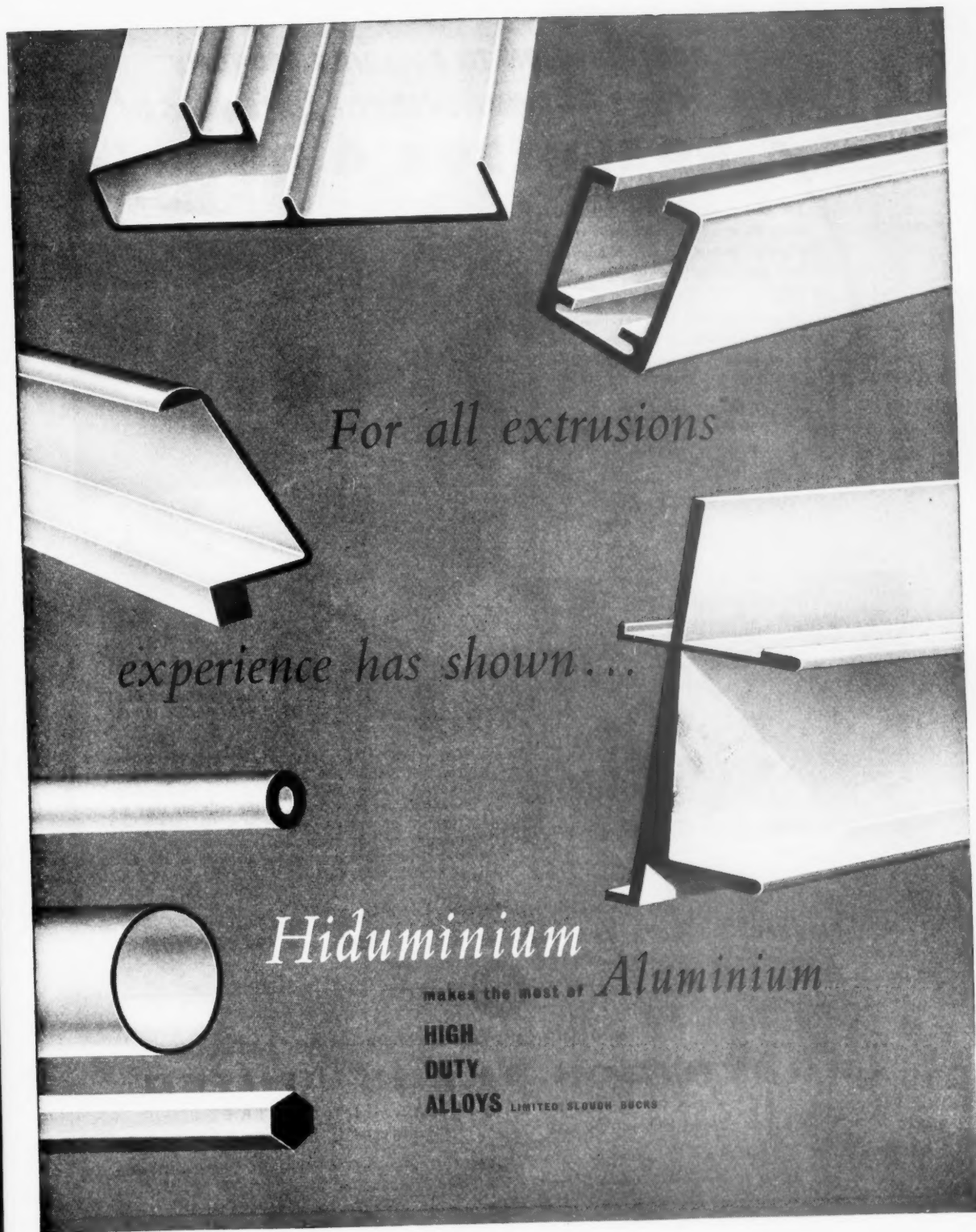
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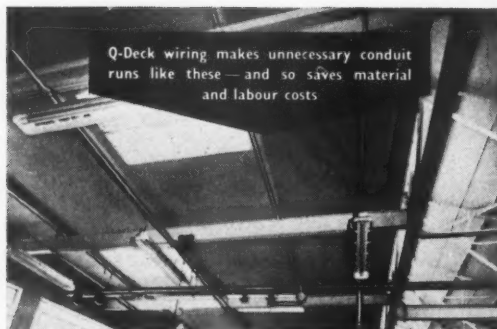
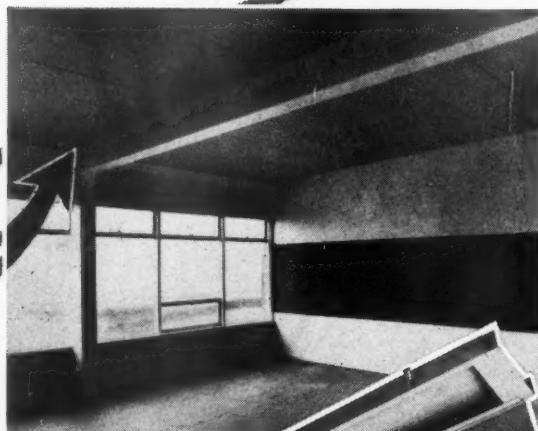
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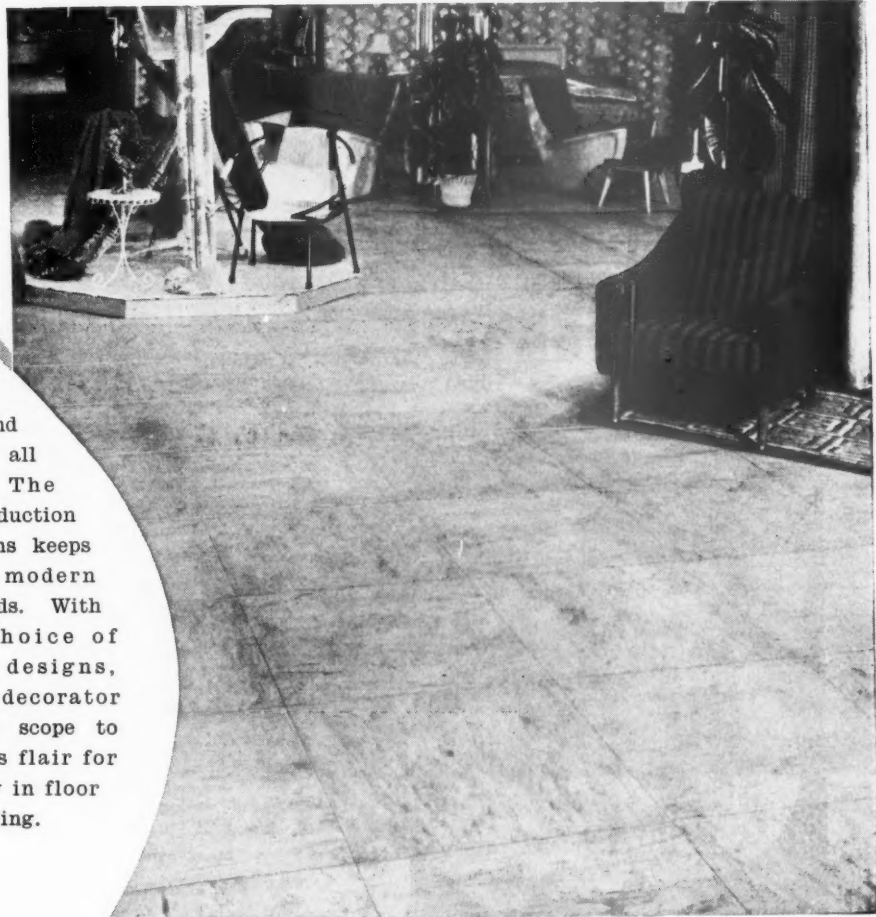
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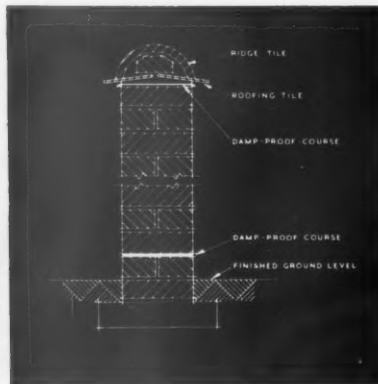
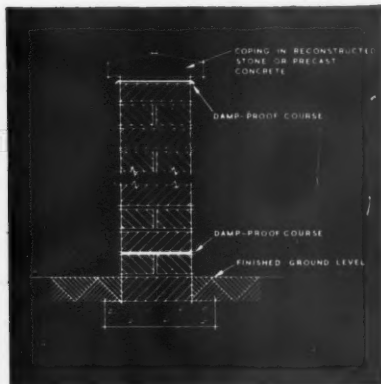
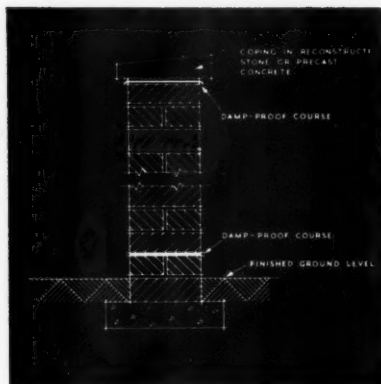


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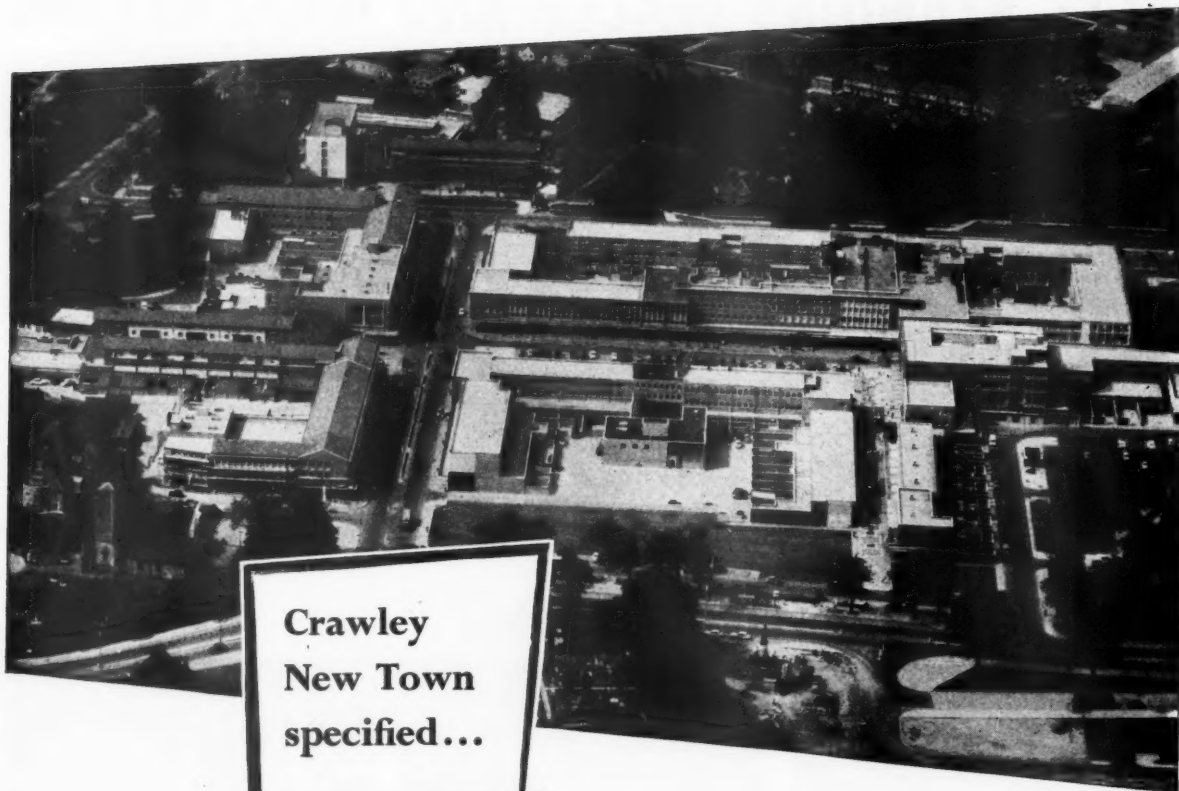


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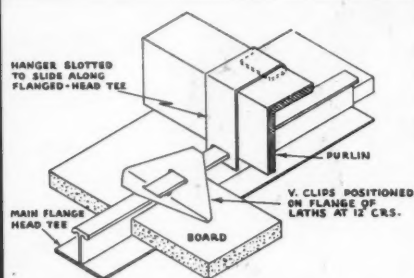
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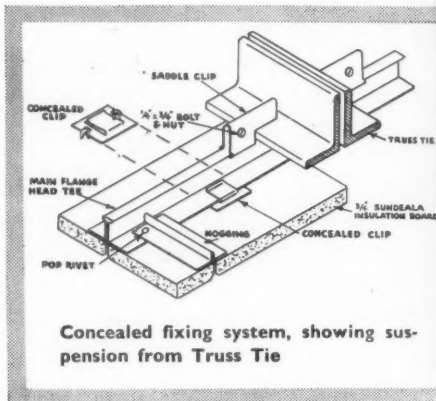
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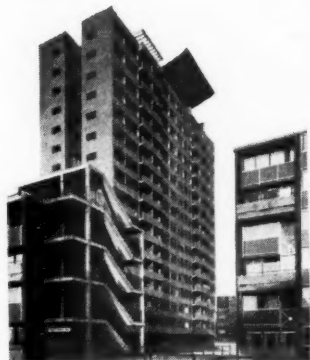
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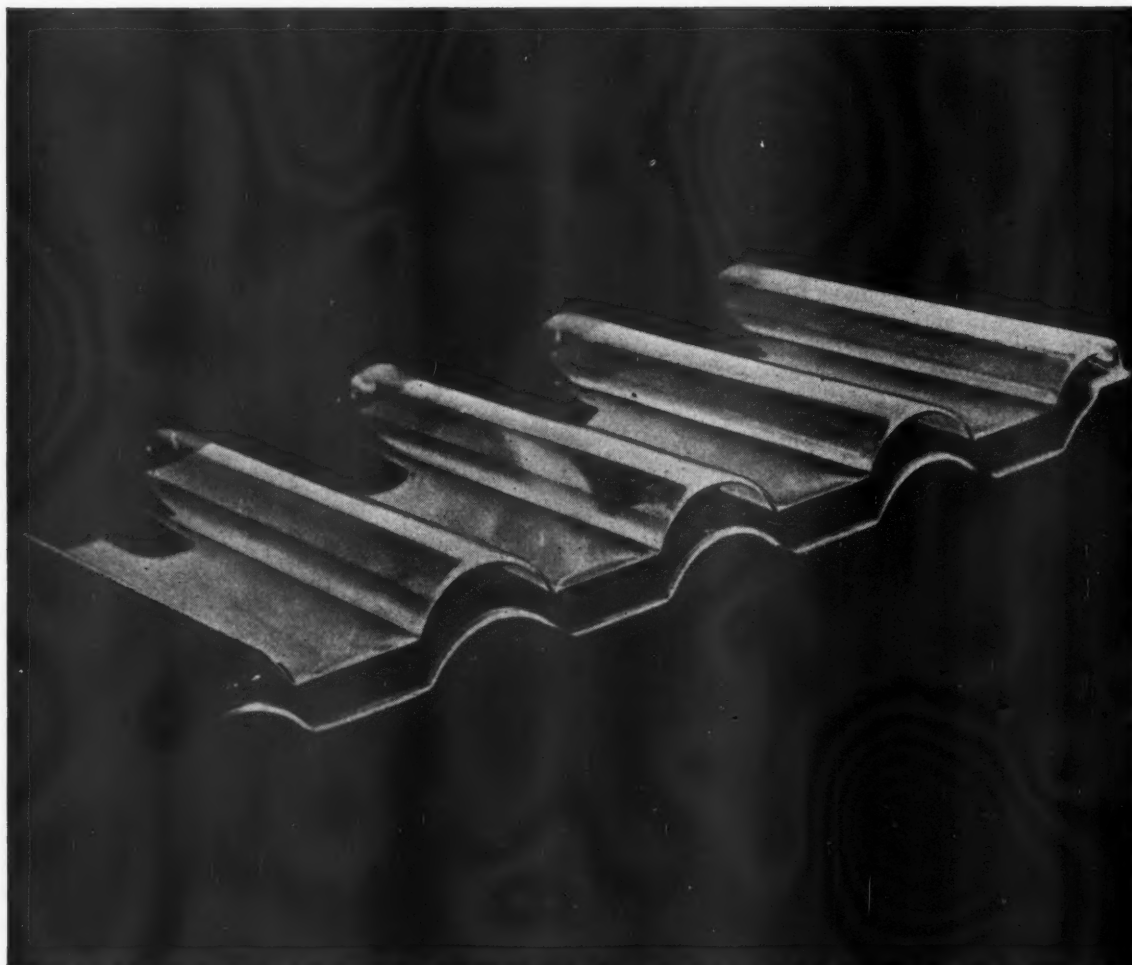
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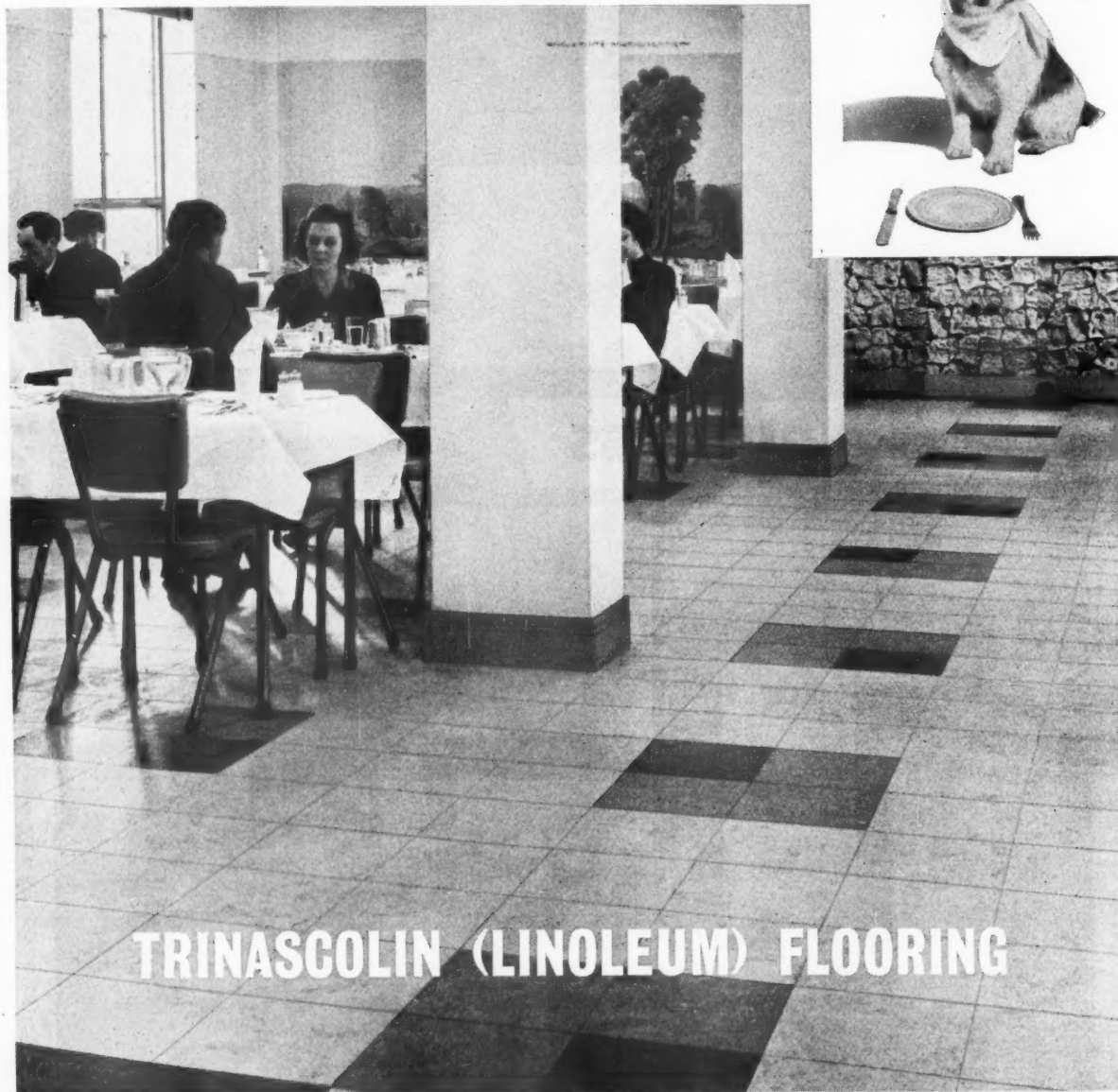


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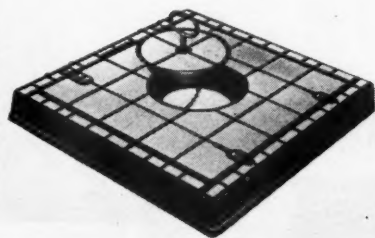
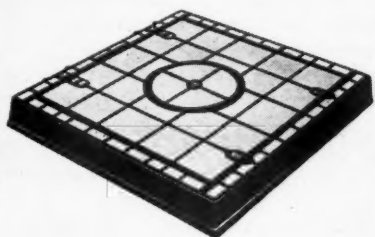
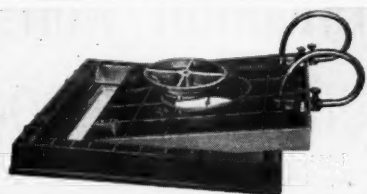
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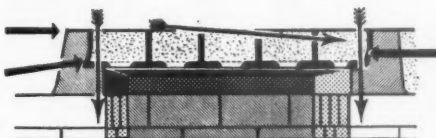
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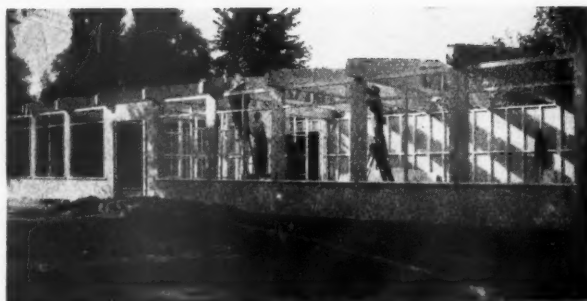
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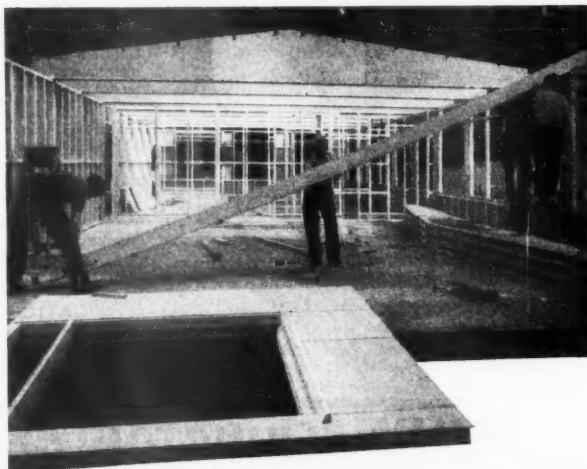
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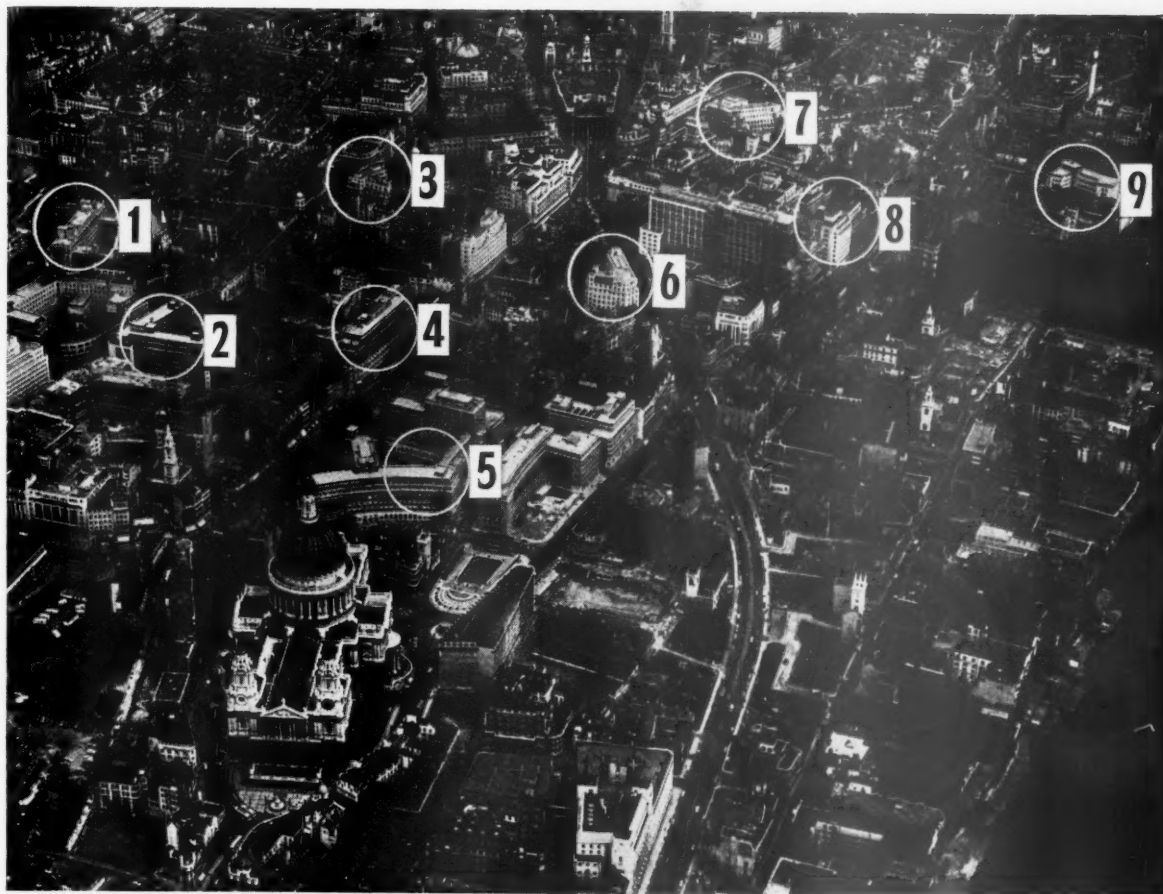
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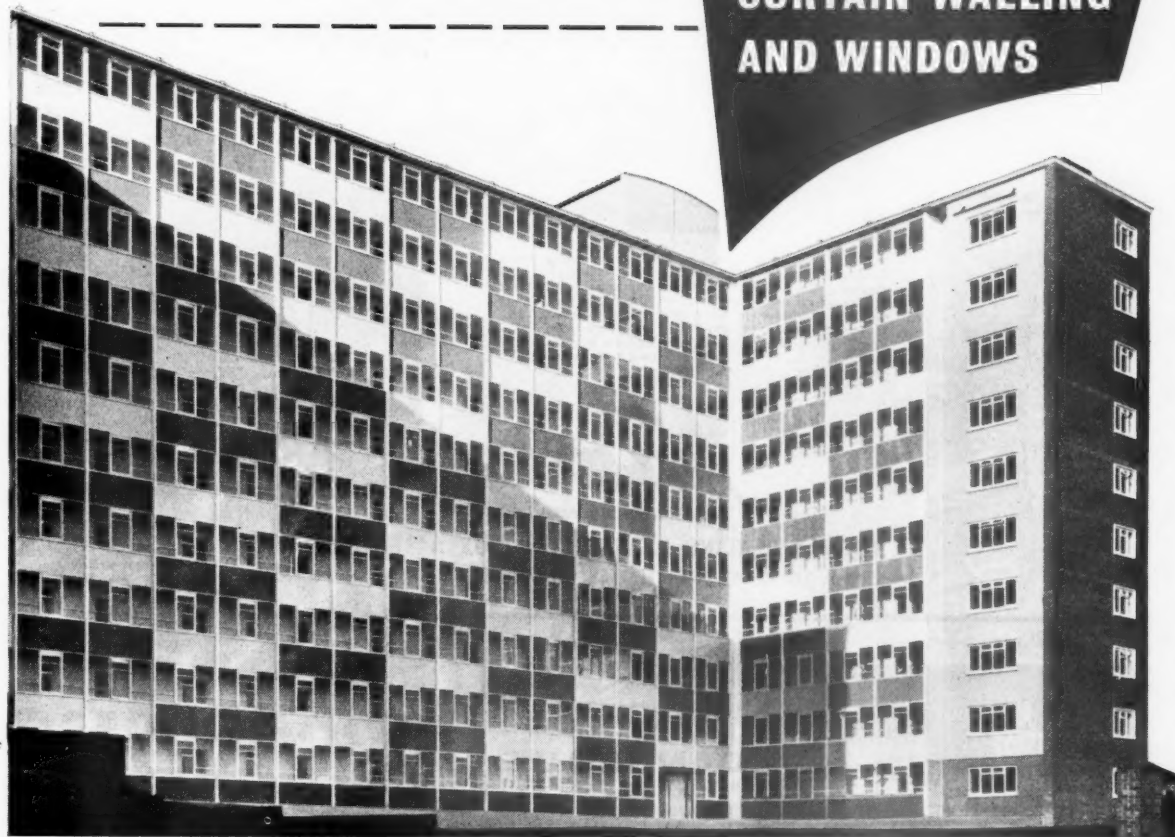
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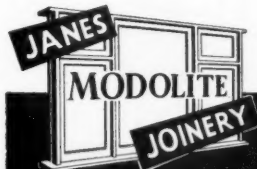
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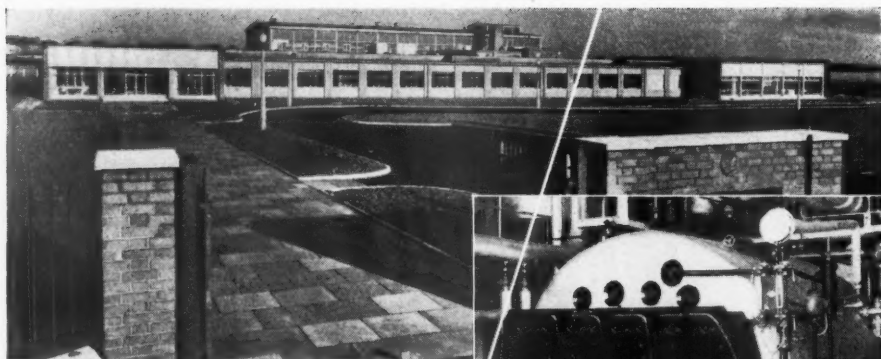


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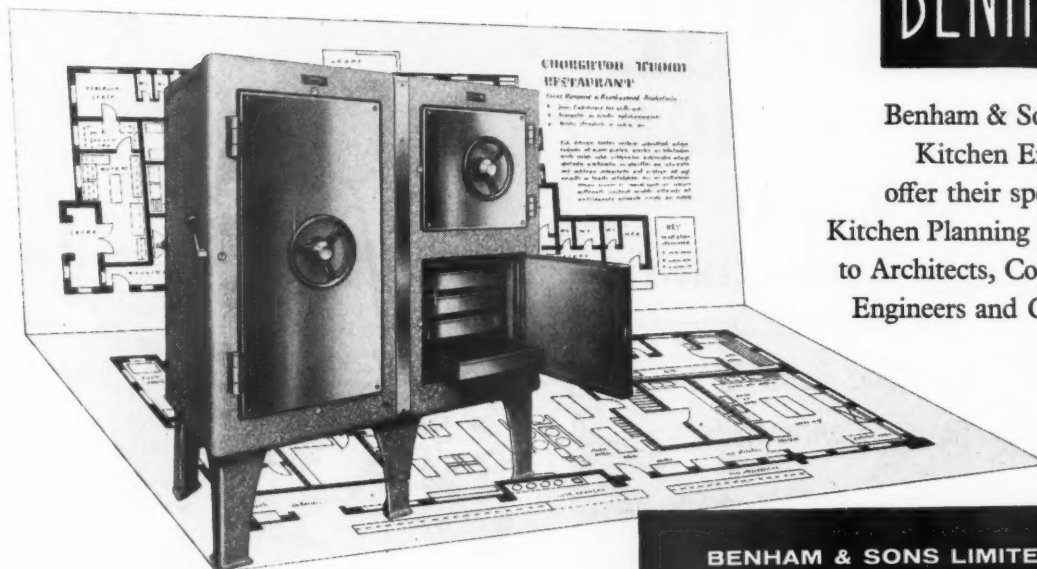
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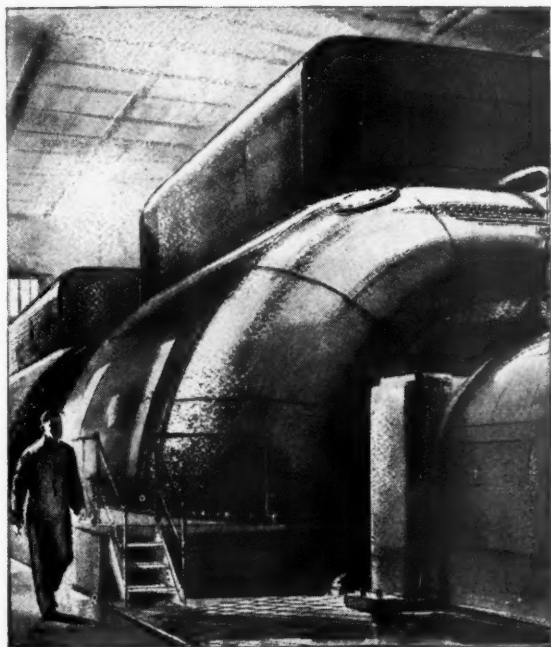
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The development of nuclear energy for generating electricity is still front-page news. Less publicised, though no less outstanding, are new developments in "conventional" generating plant. The turbo-alternator shown here is a 550,000 kilowatt unit - twice the capacity of the next largest on order for the Central Electricity Generating Board. It has been designed for the projected new power station at Thorpe Marsh. For Blythe 'B', another new station, 275,000 kilowatt in-line units are on order. They will be powered by steam at 2,350 lb. per sq. in. and 1,050°F, with reheat to 1,000°F.

Nuclear power will play an important part in meeting the ever-increasing demand for electricity. Work is now in progress on the first three nuclear power stations, at Bradwell, Berkeley and Hinkley Point. By 1966/7 some 5 to 6

million kilowatts of nuclear-generated electric power will be available.

Though these projects will not be completed for some time, the Central Electricity Generating Board plays an important part in today's fight against inflation. Power stations are being built at a cost no greater than in 1948 - £50 per kilowatt installed. And, although the output of the industry has doubled since 1948, the increase in manpower is only about one-third.

By providing today for the power we shall need in years to come, the Central Electricity Generating Board is building a secure foundation for our future prosperity.



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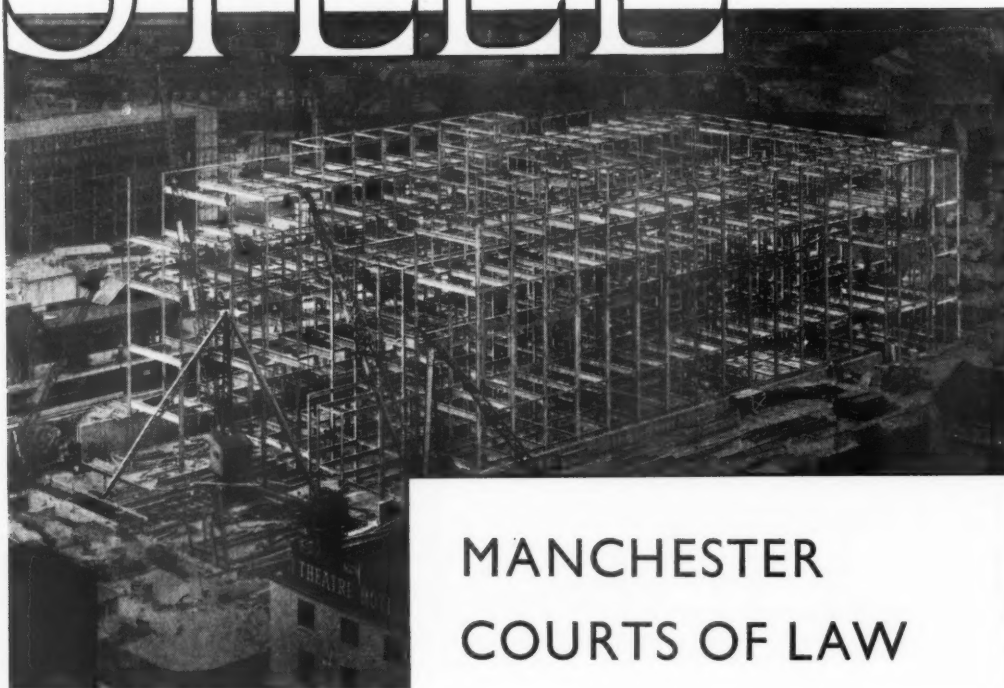
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MATTHEW HALL & CO. LIMITED

CHAIRMAN'S STATEMENT

The Thirty-second Annual General Meeting of Matthew Hall & Co. Limited was held on 19th May, 1959, at Matthew Hall House, Dorset Square, London.

The following is an extract from the circulated statement of the Chairman, Mr. Bertram Baden, M.C., S.B.St.J., M.I.H.V.E.

The year 1958 produced an increased group trading profit of £491,293 as compared with £321,854 for 1957. This was mainly due to the number of large long term contracts reaching completion during the year. The net profit after all charges, including taxation, was £201,152 (1957—£99,319). The directors recommend a dividend of 30% (1957—30% on smaller capital, plus a capital dividend of 5½% free of tax).

It is also recommended that £240,000 of the Company's reserves be capitalised and applied in paying up in full 960,000 ordinary shares of 5/- each to be issued to members on the basis of one new ordinary share for each existing ordinary share. It is possible to propose such a substantial capitalisation because, during the current year, the Company's reserves will be considerably strengthened by a transfer of reserves from a subsidiary Company which is being liquidated under a reorganisation of the group's overseas activities so as to take advantage of the benefits afforded to Overseas Trade Corporations.

It is not proposed to maintain the same rate of dividend on the increased capital, but it is hoped, apart from unforeseen circumstances, that the total amount distributed next year by way of dividend will not be less than that for 1958.

Our order book is substantial although it does not reach the record levels achieved during the past two years. Competition is keen, especially in South Africa.

MECHANICAL SERVICES DIVISION

(AIR CONDITIONING, HEATING, ELECTRICAL AND SANITATION)

Among air conditioning contracts were those for nuclear power stations and a large plant for the proton synchrotron at Harwell. Our system of high velocity dual duct air conditioning is in operation.

In large laboratories considerable savings of heat are effected by the installation of our patented fume cupboards.

Our clients are becoming increasingly aware that it is efficient, speedy and economical to place all services with one firm. We are particularly well placed to undertake these multi-services contracts which this year included laboratories, offices, factories, hospitals and universities.

GARCHY

Work continued on our installation of the Garchey system of domestic refuse disposal to nearly 1,000 flats in Sheffield.

SPRINKLERS AND FIRE PROTECTION

Contracts were received for sprinkler systems to paper mills, a large power station, laboratories, garages, stores and office blocks, including the main areas of the new American Embassy office building in Grosvenor Square.

MATTHEW HALL (PTY.) LIMITED, SOUTH AFRICA

Contracts obtained included air conditioning, sprinkler systems, plumbing, electrical and mechanical services. Work on chemical, oil and industrial plants continued.

The report and accounts were adopted.

MANY ARCHITECTS today are convinced that greater speed and efficiency in construction can only be achieved if the collaboration between *all* parties concerned—owner, architect, consulting engineer, quantity surveyor and contractor—starts at the planning stage.

It is only logical that the long practical experience of construction men should be available to designers at that time. An efficient contractor's knowledge of comparative building methods and costs, his ability to advise on new materials and techniques and the use of specialised plant are too valuable to be passed over at the stage when possible construction problems might be anticipated and solved most economically.

Building as a Team

Some of the most successful contracts completed by John Laing and Son Limited both in Britain and overseas have been achieved in this close co-operation with the owner's architects and consulting engineers—and without loss of the benefits of competitive tendering.

The services of the Company's Development and Planning Division are available to architects and consulting engineers, and include the carrying out of full scale tests and demonstrations on their behalf. Use of these services at the design stage of a construction scheme can ensure a workable, co-ordinated building programme, an economic scheme for the client and satisfactory completion on time.



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SIA

June 1959

Sulphate Attack on Brickwork

ORDINARY or rapid-hardening Portland cement and products made from it are attacked by soluble sulphate salts. Reference has been made to this action in a number of Digests, in particular, Digest No. 31—'Concrete in sulphate-bearing clays and ground waters'. Other instances of sulphate attack have been mentioned in Digest No. 60—'Condensation in domestic chimneys', No. 84—'Colliery shale as hardcore or filling', and No. 43—'The addition of gypsum plaster to mortars and renderings'. The present Digest deals specifically with the problem of sulphate attack on mortars used in brickwork.

For sulphate attack to occur three materials must be present: Portland cement*, soluble sulphate salts and water. If these occur together, and particularly if the work remains wet for a long time, the sulphates will interact with the cement, causing expansion, loss of strength, and ultimately disintegration. If only two of these materials are present, no trouble will arise. Thus, Portland cement and soluble sulphates may be present in brickwork but if the latter remains dry, no trouble will occur. It is, therefore, useful to consider first the extent to which brickwork contains these three materials.

Portland cement is usually a constituent of mortars for brickwork. The amount may be small, as in a 1 : 3 : 12 cement : lime : sand mix, or large, as in a 1 : 3 cement : sand mix.

Soluble sulphate salts are present in most clay bricks; they include mainly the sulphates of sodium, potassium, magnesium and calcium. The amount varies considerable from one type of brick to another. Engineering bricks generally have a very low content of salts, less than 0.5 %, but many clay bricks contain more than this. Some (Flettons are the most impor-

tant example) contain amounts of the order of 3 per cent, but in Flettons the main bulk of the salts is gypsum which is much less soluble than the other sulphate salts found in some other types of brick.

Water is introduced by the mortar itself and in bricks if they are wet when being laid, and more may be introduced by rain during construction and by subsequent exposure.

Circumstances in which sulphate attack occurs

From what has already been said it follows that much of the brickwork erected in this country is potentially liable to sulphate attack since the bricks themselves contain some soluble salts and the mortar usually contains Portland cement. The important factor, therefore, is whether the brickwork is liable to be wet for long enough periods for sulphate attack, which is slow, to take place.

Brickwork that gets wet intermittently and can dry out between the wet periods is generally not affected. This condition applies particularly to external walls of houses and other buildings between damp-proof course and eaves level, and it is only very rarely that such brickwork is affected if unrendered. Brickwork rendered in rich cement : sand mixes (1 : 2 or 1 : 3 cement : sand), to which water can gain access via defective details or through cracks in

* The most serious attack is caused by chemical combination of the sulphate with alumina in the Portland cement. Many hydraulic limes also contain alumina and are also attacked by sulphates.

the rendering, is more liable to attack than unrendered work, because moisture that reaches the brickwork cannot dry out readily through the dense rendering. Consequently, the brickwork tends to remain wetter than unrendered work. For example, Fig. 1 shows how the penetration of rain through defective window sills has kept the brickwork below the sill sufficiently wet to cause sulphate attack; Fig. 2 shows a gable wall affected by sulphate attack. If new brickwork is rendered externally with such cement mixes whilst it is still very wet from exposure to the weather, sufficient moisture may be trapped in the brickwork to set up sulphate attack. In the absence of such factors, and if cement : lime : sand mixes are used for renderings, the external walls of buildings will usually remain dry enough to prevent sulphate attack. Permeable renderings (e.g. 1 : 1 : 6 cement : lime : sand) permit evaporation from the brickwork more readily than dense mixes though they still afford adequate protection against penetration and are less liable to cracking. They are therefore less likely to accentuate sulphate attack.

The exposure of parapets, copings, free-standing external walls and retaining walls is more severe than that of external walls; water can reach both sides of the wall and, because there is often inadequate weather protection at the top, quantities of water may soak in from above. Moreover, the wall receives no warmth from the building and its drying is controlled solely by the weather. The exposure tends, therefore, to increase any risk of sulphate attack. This also applies, for the most part, to chimney stacks.

Below the damp-proof course level of external walls, conditions are not usually wet enough for sulphate attack to occur, but the brickwork in manholes and in other ground work not protected by a building may remain sufficiently wet for sulphate attack to occur. In the latter circumstances bricks containing negligible amounts of sulphate salts, such as engineering bricks, should be used.

The particular case of sulphate attack in the brickwork of chimneys serving domestic slow-combustion boilers has been discussed in Digest No. 60. The important difference between these chimney stacks and those serving open fires is that in the former the

brickwork becomes and remains wet as a result of condensation of the moisture in the flue gases.

Symptoms of sulphate attack on brickwork

Generally the affected mortar is found to be cracked along the length of the joint and the surface may have fallen off. Care may be needed in distinguishing between mortar affected by sulphates and mortar affected by frost. The latter usually shows less extensive cracking and more surface spalling. In the early stages of sulphate attack the mortar may remain fairly rigid even though expanded and cracked, but in the later stages it becomes weak and, where much water is present, may be reduced to a soft mush. Mortar affected by sulphates generally has a whitish appearance; often the mortar in close contact with the brickwork will be whiter than that in the centre of the joint. The expansion of the bed joints will result in an overall increase in the height of the wall. This may not be obvious in a free-standing wall, but in the external walls of houses and other buildings the increase in height can be both appreciable and troublesome. In many houses in South and West Wales, where sulphate attack in brickwork has been prevalent in the last few years, the external leaf of cavity walls has increased in



Fig. 1



Fig. 2

height by as much as 2 inches. If the chimney stacks are taken up on the gable wall, they will be tilted inwards. The joints of soil pipes fixed to the wall may be pulled out. Wall ties may be tilted so that rain penetrating the outer leaf tends to travel towards the inner leaf. In most houses affected by sulphate attack the brickwork has been rendered and there is a considerable amount of horizontal cracking of this rendering mainly along the line of the mortar joints. The rendering itself may remain adherent to the bricks but sometimes it falls off, either from individual bricks or in fairly large sheets, depending upon the extent to which its under-surface has also been attacked by the sulphates.

Remedial action

Where brickwork has already been affected, but not so badly as to necessitate rebuilding, remedial action must depend on preventing further continuing dampness—nothing can be done about removing the sulphates. It is necessary to find how the water is getting in and then to take action to stop it. Elaborate measures may be needed to prevent excessive water reaching or remaining in the brickwork. Thus houses that have suffered damage in exposed conditions should be clad either with weatherboarding or tile or slate hanging so that the water is shed from the wall before it can reach the brickwork. To strip the existing

rendering and re-render is not sufficiently certain because it is difficult to ensure that the brickwork is dry enough before the new rendering is applied, to avoid the risk that residual water may renew the sulphate attack. This could cause cracks in the new rendering, thus again providing means whereby more rain could enter the wall. Gutters and downpipes should be checked to ensure that there are no leaks or blockages.

Particular attention must be given to details around window and door openings if a successful result is to be obtained. Jointed sills should be provided with a continuous damp-proof course. What needs to be done will vary considerably from house to house, but the essential point is to ensure that water does not get to and become trapped in the brickwork.

For parapets and free-standing walls affected by sulphates it may be necessary to re-build sections but some form of protection at the top should be included. In a parapet, there should be a continuous damp-proof course under the coping and the coping should be wide enough to give protection to the vertical sides of the parapet as well as having a good throating to shed the run-off clear of the parapet wall (see Digest No. 11). Another precaution is to incorporate movement joints in the wall to allow for a certain amount of expansion.

Where the work has been affected so badly that it has to be demolished, care should be taken either that more suitable materials are used or that the constructional details are such that the brickwork does not remain continuously wet.

Preventing sulphate attack in new work

As has already been said, the presence together in the brickwork at the same time of the three materials, water, soluble sulphate salts and Portland cement, must be avoided.

The first and most obvious means of achieving this is to ensure that the brickwork will not become and remain unduly wet. Particular attention must be paid to details of construction. Details at eaves, verges, sills, parapets and copings should be designed to throw water clear of the brickwork and to prevent its ingress from above. (See Digest No. 11 or British Standard Code of Practice CP. 121.101.)

If the brickwork is to be rendered, the mixes used should be not richer than 1 : 1 : 6 so as to reduce the risk that moisture that may reach the brickwork from any source may be trapped therein. Subject to what is said later, such precautions should normally be adequate for walling between damp-proof course and eaves level.

If the brickwork can be kept dry the sulphate content of clay bricks is not critical from this standpoint, but where the brickwork cannot be kept sufficiently dry, as in parapets, copings, external free-standing walls and retaining walls, it is necessary to use clay bricks having a low sulphate content, or to use concrete bricks or blocks or sand/lime bricks conforming with the relevant British Standard (see Digest No. 6). The Code of Practice, referred to above, recommends that clay bricks for use in those situations should have a soluble sulphate-radicle content (measured by the method described in B.S. 1257) of less than 1 per cent or, for very wet conditions, less than 0.5 per cent, unless evidence is available that the selected brick will be satisfactory under the particular conditions in which it is to be used.

Some features of the recent outbreak of sulphate attack in Wales where brickwork between damp-proof course and eaves level has been affected, indicate that even clay bricks normally acceptable for use in that position can

give rise to sulphate attack. Although the majority of these instances have occurred in walls rendered with rich cement mixes, which as noted above tend to increase the liability to attack, certain problems remain unsolved though it appears that exposure to driving rain in areas of relatively high rainfall is probably an important factor. Pending further study, the following recommendations are made for those districts where sulphate attack of brickwork is common.

- (1) pay special attention to details of design and construction *to keep the brickwork dry.*
- (2) *Avoid dense renderings.* Cement-lime-sand renderings are more appropriate than dense mixes. The least risk will occur with *facing brickwork*, with tile or slate hanging, or with weatherboarding.
- (3) If rendering is essential, use, for both the mortar and the rendering, a cement more resistant to sulphate attack than ordinary Portland cement. Suitable cements are sulphate-resisting Portland cement and high-alumina cement. Where practicable, choose bricks of low sulphate content.

It might be noted that the salt content of clay bricks, even of the same batch, is liable to vary (see Digest No. 25) and the sampling procedure set out in B.S. 1257 should be insisted on.

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